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Desktopped by Kate McDonnell

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Look

WHAT'S COMING TO THE

Canadian Journal of Nursing Research!

The Canadian Journal of Nursing Research is pleased to announce a new section entitled

Focus: Research and Issues

Starting with the 1994 Fall issue (vol. 26, no. 3), our section editors will take their turn as guest editor for articles featuring an important nursing topic. This section will lend added depth to the diverse subject matter that we currently enjoy in each issue.

Over the coming months you will notice other sections being introduced periodically:

DISCOURSE, for critical thoughts on substantive issues;

BRIEFS, for research reports and commentaries;

PLAUDITS AND GRIPES, for letters to the editor;

DESIGNER'S CORNER, for tools and techniques required to build knowledge;

HAPPENINGS, for reports on innovative research and clinical programs;

BOOK REVIEWS; and

PUBLICITY for announcements of new positions, career opportunities, conferences, and so on.

This broadened format provides a more comprehensive, up-to-date coverage of issues and concerns pertinent to the development of nursing. Your comments, reflections, news items, and manuscripts will make **The Canadian Journal of Nursing Research** a truly Canadian voice for nursing research. We invite submissions for any of these sections.

Du nouveau

À LA

Revue canadienne de recherche en sciences infirmières!

La rédaction de la **Revue canadienne de recherche en sciences infirmières** est heureuse de vous annoncer la création d'une nouvelle rubrique, intitulée :

Le Point : recherche et actualité

Dès le numéro d'automne 1994 (vol. 26, n° 3), nos chroniqueurs prendront alternativement la parole en tant que rédacteurs invités sur un sujet d'importance touchant les soins infirmiers. Cette nouvelle rubrique permettra d'approfondir, pour le plus grand plaisir des lecteurs, les nombreux sujets abordés dans chacun des numéros de la revue.

Au cours des mois à venir, d'autres rubriques viendront périodiquement étoffer la publication :

DISCOURS portera un regard critique sur des questions d'envergure;
EN BREF s'intéressera aux rapports de recherches et à leurs commentaires;

ÉLOGES ET REPROCHES recevra le courrier des lecteurs;

LE COIN DU CONCEPTEUR recueillera outils et techniques d'apprentissage;

L'ÉVÉNEMENT mettra en lumière les recherches et les programmes cliniques novateurs;

PUBLICATIONS, fera le compte rendu de livres récents; enfin,

PUBLICITÉ annoncera les nouvelles nominations, les possibilités de carrière, les conférences, etc.

Ce format élargi permettra une couverture plus exhaustive et plus à jour des questions et défis touchant le développement des sciences infirmières. Vos commentaires, réflexions, nouvelles et manuscrits donneront à la **Revue canadienne de recherche en sciences infirmières** un ton résolument canadien dans le concert des publications sur les sciences infirmières. Nous vous invitons à contribuer à l'une ou l'autre des rubriques.

Upcoming Focus Issues:

Coping and Adaptation

Guest Editor: Dr. Judith Ritchie
Submission Deadline: June 15, 1994
To appear: Fall 1994 (vol. 26, no. 3)

Women's Health

Guest Editor: Dr. Ellen Hodnett
Submission Deadline: September 15, 1994
To appear: Winter 1994 (vol. 26, no. 4)

Family/Health

Guest Editor: Dr. Kathleen Rowat
Submission Deadline: December 15, 1994
To appear: Spring 1995 (vol. 27, no. 1)

Philosophy/Theory

Guest Editor: Dr. June Kikuchi
Submission Deadline: February 15, 1995
To appear: Summer 1995 (vol. 27, no. 2)

Prochains numéros:

Soutien et adaptation

rédaCTRice invitée: Dre Judith Ritchie
date-butoir des soumissions: 15 juin 1994
publication: automne 1994 (vol. 26, no. 3)

Les femmes et leur santé

rédaCTRice invitée: Dre Ellen Hodnett
date-butoir des soumissions: 15 septembre 1994
publication: hiver 1994 (vol. 26, no. 4)

La famille et la santé

rédaCTRice invitée: Dre Kathleen Rowat
date-butoir des soumissions: 15 décembre 1994
publication: printemps 1995 (vol. 27, no. 1)

Philosophie et théorie

rédaCTRice invitée: Dre June Kikuchi
date-butoir des soumissions: 15 février 1995
publication: été 1995 (vol. 27, no. 2)

COPING

Fall 1994 (vol. 26, no 3)

We invite submissions of empirical reports on individuals and families who are coping with acute and chronic illnesses; the social support processes involved in coping; and the outcomes of coping behaviors or nursing interventions that enable coping and adaptation.

Guest Editor: Dr. Judith Ritchie

Submission Deadline: June 15, 1994

WOMEN'S HEALTH

Winter 1994 (vol. 26, no 4)

We invite submissions of manuscripts in the field of health. Topics include but are not restricted to reproduction and gynecological health, breast cancer, abuse and assault, cultural variations, child care, aging, health promotion and illness prevention. While theoretical and literature review papers may be submitted, priority will be given to reports and research projects.

Guest Editor: Dr. Ellen Hodnett

Submission Deadline: September 15, 1994

FAMILY/HEALTH

Spring 1995 (vol. 27, no 1)

We invite submissions of manuscripts relating to family health including such topics as families across the life cycle, transitional phases within family life, and families dealing with acute or chronic illness in one of their members. Priority will be given to research reports. However review articles will also be considered.

Guest Editor: Dr. Kathleen Rowat

Submission Deadline: December 15, 1994

PHILOSOPHY/THEORY

Summer 1995 (vol. 27, no. 2)

The aim of this call is to elicit manuscripts which have the potential to stimulate discussion of issues/problems that face the discipline of nursing in the areas of philosophical thought and theory development. Research/scholarly papers are invited that address critical issues/problems of a philosophical, conceptual, theoretical, or methodological nature related to the advancement of the discipline of nursing.

Guest Editor: Dr. June Kikuchi

Submission Deadline: February 15, 1995

Please send manuscripts to:

The Editor,

Canadian Journal of Nursing Research,

McGill University School of Nursing,

3506 University Ave., Montreal, Qc H3A 2A7

LE SOUTIEN

publication : automne 1994 (vol. 26, n° 3)

Nous vous invitons à soumettre des rapports empiriques touchant des personnes et des familles aux prises avec des affections chroniques aiguës; les processus sociaux de soutien; et les conséquences de comportements de soutien ou des interventions en soins infirmiers qui permettent le soutien et l'adaptation.

Rédactrice invitée : D^{re} Judith Ritchie

date-butoir des soumissions: 15 juin 1994

LES FEMMES ET LEUR SANTÉ

publication : hiver 1994 (vol. 26, n° 4)

Nous vous invitons à soumettre des manuscrits portant sur le domaine de la santé. Sujets proposés (non limitatifs): techniques de reproduction et santé gynécologique, cancer du sein, abus et agressions, variantes culturelles, puériculture, vieillissement, promotion de la santé et prévention des maladies. Bien que les textes théoriques et les critiques de documents soient appréciés, la priorité sera donnée aux rapports et aux projets de recherche.

Rédactrice invitée : D^{re} Judith Ritchie

date-butoir des soumissions: 15 juin 1994

LA FAMILLE ET LA SANTÉ

publication:printemps 1995 (vol. 27, no. 1)

Vous êtes invité à nous soumettre des articles sur la santé familiale. Les sujets comprendront la famille dans les différents cycles de la vie, les phases de transition dans la vie de la famille et la famille aux prises avec la maladie aiguë ou chronique de l'un de ses membres. Les rapports de recherche auront la priorité. Cependant, les articles critiques seront également pris en considération.

Rédactrice invitée: D^{re} Kathleen Rowat

Date limite pour les soumissions: le 15 décembre 1994

PHILOSOPHIE/THÉORIE

publication:été 1995 (vol.27, no. 2)

Le but de cet appel est d'obtenir des articles pouvant provoquer la discussion sur des questions ou des difficultés que rencontrent les sciences infirmières dans les domaines de la pensée philosophique et de l'élaboration théorique. Vous êtes invité à écrire des articles de recherche érudits qui concernent les questions ou les difficultés importantes de nature philosophique, conceptuelle, théorique ou méthodologique et qui son liés au progrès des sciences infirmières.

Rédactrice invitée: D^{re} June Kikuchi

Date limite pour les soumissions: le 15 février 1995

Prière de faire parvenir les manuscrits à la :

Rédactrice en chef

Revue canadienne de recherche en sciences infirmières

École des sciences infirmières de l'Université McGill

3506, rue University, Montréal (Québec) H3A 2A7

WINTER EDITORIAL

The New Realities of Grant Funding

Isn't it strange how different experiences introduce new ideas and how these ideas, which at first seem unrelated, eventually come together to create new images, slowly transforming old realities into new ones. Such has been my experience as I became aware of a "new order" that has come to funding agencies. Although I have been exposed to many of the ideas in different forums and within different contexts, it was not until a recent visit to the various divisions of Health Canada that I became fully aware that the new directions of granting were part of a greater ethos, a larger picture, an emerging "new order." These perceptions were reinforced and elaborated during a recent interview with Dr. Mary Ellen Jeans, former editor of the *Canadian Journal of Nursing Research* and currently the director general of the Extramural Research Programs Directorate for Health Canada. The purpose of this editorial is to highlight some of these new realities, to set forth the challenges that now confront us, and to invite you to share your experiences and insights within this "new order."

The new economic realities and the re-conceptualization of health, health promotion, and health care have forced granting agencies to critically reexamine their values, redefine their mandates, establish new policies, and embark on new directions. These decisions have been guided by the principles driving the culture of accountability of the 1990s. The language of this new culture is reflected in such words as *strategic, relevance, generalizability, partnerships, stakeholders, dissemination*. These words have shaped and will continue to shape the nature of funding in the years to come.

Briefly, the old existing order of the "scientist-discipline-specific" model is being supplanted by the "partnership-participatory" model. In the past, research agendas were set primarily by scientists. However, individualistic, discipline-specific research is dissolving only to be replaced by "*strategic funding*" involving different *stakeholders* and conducted by *multidisciplinary* teams. Let me briefly elaborate.

Granting agencies are becoming more strategic in what they fund. Research areas are being carefully and deliberately selected and targeted. Priority, strategic research is in, non-strategic funding is out. Furthermore, the responsibilities for setting research agendas are being shared by different stakeholders who have common interests and concerns. Stakeholders are persons or groups who have a vested interest in the research problem. They

include consumers, lay interest groups, politicians, policy-makers, business people, practitioners, researchers, and so forth. Together, they are assigning responsibility for setting the research agenda, planning the research, putting funding together, and ensuring that the knowledge generated is disseminated in a form that each stakeholder can use. Granting agencies are beginning to play a broker's role – bringing stakeholders together and/or creating the necessary conditions to enable them to work together.

One of the benefits derived from this new arrangement is that each stakeholder contributes his/her own unique perspective. The result is that problems are becoming more broadly defined. I suspect that the process has contributed to a broadening of the definition of health and the types of research that we are now witnessing. Whereas once health research was synonymous with illness prevention, it now addresses issues such as the determinants of health, the social and economic impact on health, the effects of interventions on quality of life, the impact of health care services on health and so forth, areas that have traditionally been of concern to nursing.

The increased awareness of the complexity of health also has led to the realization that no one discipline has the knowledge and skills to adequately address all the questions arising from this phenomenon. Therefore, the venue of funding will continue to shift from project-specific funding to programmatic funding with projects that are undertaken by multi-disciplinary teams, centers of excellence, and research networks.

This new approach to knowledge development, however, is extremely costly and can no longer be the responsibility of a few. For example, the idea of partnerships also extends to funding. Private funding is being encouraged to join forces with public funding.

Finally, granting agencies are placing greater emphasis on the dissemination process. In the "scientist-dominated" research model, dissemination was, for the most part, limited to the academic community. Now granting agencies are asking the people they fund to allocate more time and money to disseminating research findings to all their stakeholders.

This new model, on the surface, is intuitively appealing – but can it work? What are the problems? These questions will have to await answers. However, we do know that the model was put to the test at the National Breast Cancer Forum, which took place this past fall in Montreal. Although not designed as such a test, this forum put into play many of the principles underlying the "new order." At this forum, researchers, policy-makers, cancer victims and their families, clinicians, and granting agencies came together to dialogue,

share ideas, express frustrations over past research endeavors, and together, set the new research agenda that would address the needs and concerns of each stakeholder. The dialogue revealed the inherent problems when complex issues are narrowly defined or defined from the perspective of one discipline. The limitations of such an approach range from the benign, that is, research that has limited applicability and relevance, to the malignant, that is, money and time wasted on the pursuit of dragons that produce minimal yield while the suffering of patients and families continues unabated.

I have identified some of the new trends coming to granting bodies. As nurses, we are in a unique position to be at the forefront of these new developments. We have been asking the very questions that funding agencies are now strategically targeting. We possess many of the skills required to form partnerships. We know how to readily access clients and we are used to working in teams. However, there are some skills that we need to develop.

We will need to continue to position ourselves in order to receive our share of the "limited" resources. This will mean among other things, becoming aware of the priorities of granting agencies. It means launching research programs, forging new partnerships, developing entrepreneurial skills to secure funds, disseminating research findings more widely. Many of you have been engaged in such activities for a long time.

Now we need to explore these principles in depth through future editorials and articles. *The Canadian Journal of Nursing Research* will be featuring two new sections entitled HAPPENINGS and DISCOURSE. I invite you to share your experiences and insights on these new trends. Let the dialogue continue so that we can become full participants in the "new order."

Laurie N. Gottlieb
Editor

ÉDITORIAL DE L'HIVER

Les nouvelles réalités du financement des bourses

N'est-ce pas curieux la façon dont différentes expériences entraînent des idées nouvelles et la façon dont ces idées-là qui, au début, semblaient n'avoir aucun rapport entre elles, finissent par former de nouveaux ensembles, créer de nouvelles images et lentement transformer d'anciennes réalités en de nouvelles? C'est ce que j'ai vécu tandis que je prenais conscience d'un «nouvel ordre» qui se mettait en place par rapport au financement des bourses. Bien que je fus exposée à de nombreuses idées dans divers forums et au sein de contextes différents, ce n'est que lors d'une visite récente à plusieurs divisions sanitaires de Santé Canada que je pris totalement conscience que les nouvelles orientations pour l'octroi de bourses faisaient partie d'un plus grand génie, d'un tableau plus vaste, d'un «nouvel ordre» qui émergeait. Ces perceptions prirent naissance et furent renforcées au cours d'une récente entrevue avec D^{re} Mary Ellen Jeans, ancienne rédactrice en chef de la *Revue canadienne de recherche en sciences infirmières* et actuellement directrice générale du *Extramural Research Programs Directorate* à Santé Canada. L'objectif de cet éditorial est de faire ressortir quelques-unes de ces nouvelles réalités, de faire connaître les défis que nous devons maintenant relever et de vous inviter à faire part de vos expériences et de votre point de vue sur ce «nouvel ordre» pour l'octroi de bourses.

Les nouvelles réalités économiques et la nouvelle conceptualisation de la santé, de sa promotion et des soins ont obligé les organismes d'octroi de bourses à revoir en profondeur leurs valeurs, à redéfinir leurs mandats, à élaborer de nouvelles politiques et à s'orienter différemment. Ce sont les principes commandant la culture de la responsabilité des années quatre-vingt-dix qui ont guidé ces décisions. Le langage de cette nouvelle culture transparait dans des mots comme *stratégique, pertinence, généralisation, associations, dépositaires d'enjeux, propagation*. Ces mots ont façonné et continueront de façonner la nature du financement dans les années à venir.

En un mot, l'ancien concept du modèle «chercheur-discipline-spécifique» est remplacé par le modèle «association-participation». Par le passé, les chercheurs essentiellement établissaient les programmes de recherche. De nos jours, la recherche individuelle et spécifique dans sa discipline disparaît pour être remplacée par le *financement stratégique* qui compte différents *dépositaires d'enjeux* et qui est dirigé par des *équipes multidisciplinaires*. Permettez-moi d'être plus précise.

Les organismes de financement élaborent de plus en plus de stratégies sur ce qu'ils financent. Les domaines sont soigneusement et délibérément sélectionnés et ciblés. La recherche prioritaire et stratégique est à la mode; le financement qui n'est pas stratégique est démodé. De plus, les différents dépositaires d'enjeux qui ont un même intérêt ou préoccupation ont pour responsabilité l'élaboration de programmes de recherches. Les dépositaires d'enjeux sont quiconque ou n'importe quel groupe ayant un intérêt dans la recherche. Ils comptent des consommateurs, des groupes d'intérêt non initiés, des politiciens, des décideurs, des gens d'affaires, des médecins, des chercheurs, etc. Ils délèguent ensemble les responsabilités pour l'élaboration de programmes de recherche, la planification de la recherche, l'agencement du financement, et l'assurance que les connaissances acquises sont propagées de sorte que chaque dépositaire d'enjeux peut les comprendre et donc les utiliser. Les organismes de financement commencent à jouer un rôle de courtier en rassemblant les dépositaires d'enjeux ou bien en créant les conditions nécessaires pour qu'ils continuent leur oeuvre ensemble.

Un avantage de ce nouvel arrangement est que chaque dépositaire d'enjeux présente son point de vue. Il en résulte que les difficultés sont plus amplement définies. J'ai le sentiment que ce processus a contribué à l'élargissement de la définition de la santé et des types de recherche qui font partie de la rubrique «santé», comme nous le constatons aujourd'hui. Autrefois, la recherche dans le domaine de la santé était synonyme de recherche pour la prévention des maladies. De nos jours, elle comprend la recherche qui s'intéresse aux questions telles que les déterminants de la santé, l'impact économique et social sur la santé, les effets des études d'intervention sur la qualité de la vie, l'impact des services sanitaires sur la santé, etc., domaines qui ont toujours concerné les sciences infirmières.

Cette conscience accrue de la complexité de la santé s'accompagne également de la prise de conscience du fait qu'aucune autre discipline n'a les connaissances et les compétences pour s'occuper convenablement de toutes les questions soulevées par ce phénomène. Ainsi, le lieu de financement a déjà changé de projet et continuera de le faire, allant d'un financement spécifique à un financement par programme, des projets entrepris par des équipes multidisciplinaires, des centres d'excellence et des réseaux de recherche.

Cependant, cette nouvelle approche envers le développement des connaissances coûte extrêmement cher et la responsabilité ne peut plus en incomber à quelques personnes seulement. Le concept d'association s'étend au financement. On encourage maintenant les fondations et les industries qui financent en leur nom à unir leurs forces à celles du financement public.

Enfin, les organismes de financement attachent davantage d'importance au processus de propagation. Dans le modèle de recherche «exclusivité des chercheurs», la propagation se limitait au monde universitaire. Les organismes de financement demandent que davantage de temps et d'argent soit alloué à la propagation de la recherche à tous les dépositaires d'enjeux.

Au premier abord, ce nouveau modèle est attrayant. Il faut s'interroger à savoir s'il peut fonctionner. Quelles sont les difficultés? Les réponses à ces questions doivent attendre d'autres réponses. Nous savons néanmoins que le modèle a été mis à l'épreuve au National Breast Cancer Forum qui a eu lieu l'automne passé à Montréal. Bien qu'il n'ait pas été conçu pour une telle épreuve, ce modèle a mis en jeu nombre de principes sous-jacents au «nouvel ordre». À ce forum, des chercheurs, des décideurs, des cancéreux et leurs familles, des cliniciens et des organismes de financement se sont rassemblés pour dialoguer, partager leurs idées, exprimer les frustrations qu'ils ressentaient par rapport aux recherches passées et ensemble, ils ont établi le nouveau programme de recherche qui abordera les besoins et les intérêts de chaque dépositaire d'enjeux. Le dialogue fit surgir les problèmes inhérents lorsque des questions complexes étaient définies soit de façon étroite soit dans la perspective d'une seule discipline. Les limites d'une telle approche vont d'un trouble bénin, à savoir une recherche dont l'applicabilité et la pertinence sont limitées, à un trouble malin, à savoir le gaspillage d'argent et de temps pour des monstres qui produisent très peu tandis que les souffrances des malades et de leurs familles perdurent.

J'ai remarqué quelques nouvelles tendances dans les organismes de financement. En tant que personnel infirmier, nous sommes dans une situation unique, nous sommes au premier rang de cette évolution. Nous avons posé les questions que les organismes de financement ciblent maintenant stratégiquement. Nous avons beaucoup des compétences requises pour former des associations. Nous savons comment approcher facilement les clients et nous avons l'habitude de travailler en équipe. Nous avons néanmoins besoin de développer certaines aptitudes.

Nous nous sommes déjà situés et nous devons continuer de nous situer de façon à recevoir pleinement notre part de ces ressources «limitées». Cela signifie, entre autres, que nous devons connaître les priorités des organismes de financement et que nous devons établir des programmes de recherche dans ce sens, en nous groupant et en créant de nouvelles associations avec d'autres dépositaires d'enjeux, en développant nos compétences entrepreneuriales afin d'obtenir des fonds et en apprenant comment progager les résultats de nos recherches. Beaucoup d'entre vous êtes engagés depuis longtemps déjà dans ce genre d'activités.

Nous devons maintenant examiner ces principes en profondeur par le biais de nos éditoriaux et articles à venir. La Revue canadienne de recherche en sciences infirmières présentera deux nouvelles sections intitulées L'ÉVÉNEMENT et DISCOURS. Je vous invite à nous faire part de vos expériences et de votre point de vue sur ces nouvelles tendances. Que le dialogue se poursuive afin que nous soyons des participants à part entière à ce «nouvel ordre».

Laurie N. Gottlieb
Rédactrice en chef

Challenge for Credit in Canadian University Nursing Programs

Mary Anne Andrusyszyn

Proposition d'accord de crédits pour les programmes en sciences infirmières dans les universités canadiennes: Cette étude décrit les possibilités d'accord de crédits pour les infirmières autorisées qui commencent un baccalauréat en sciences infirmières dans une université canadienne, de même que les critères employés pour déterminer si certains cours peuvent être crédités. Parmi les vingt-huit écoles des sciences infirmières dans les universités canadiennes, vingt-cinq (89 %) ont accepté de participer à cette étude. Des représentants de chacune des écoles ont été interviewés au téléphone. Toutes les écoles permettent l'accès au baccalauréat aux infirmières autorisées et une certaine forme de reconnaissance pour leur diplôme. Des possibilités de *proposition* formelle ou informelle sont disponibles dans 48 % des écoles. Les critères de *proposition* dans les différentes écoles ne sont pas constants. Bien que les répondants estiment que les possibilités de proposition sont valables, ils doutent que la proposition soit utile pour mesurer le fort esprit critique requis chez les infirmières qui préparent leur baccalauréat. Une recherche supplémentaire dans ce domaine serait justifiée.

This study describes the opportunities for advanced placement available to registered nurses who are entering Canadian university baccalaureate nursing programs, and the criteria used to decide whether courses may be challenged for credit. Of the 28 Canadian university schools of nursing, 25 (89%) agreed to participate in the study. Telephone interviews were conducted with representatives from each of the schools. All provided access to baccalaureate education for registered nurses and some form of recognition for their diploma. Formal or informal challenge opportunities were available in 48% of the schools. There was no consistency in criteria for challenge among the schools. Although respondents reported that challenge opportunities had merit, they questioned whether challenge was useful for measuring the advanced critical thinking skills required of baccalaureate nurses. Further research in this area is warranted.

One aim of the nursing profession is to achieve baccalaureate preparation as the required educational level for the practice of nursing by the year 2000 (CNA, 1982). Movement towards achievement of this goal has accelerated in the last decade and become reality in many provincial, national, and international jurisdictions.

In Canada, it is commonly known that registered nurses (RNs) who obtain diplomas prior to the year 2000 will continue to be registered to practice nursing beyond that year. Despite this, many such individuals feel compelled to enrich their knowledge and skills by returning to school and earning a degree. They recognize that their ability to secure future positions will weaken as the number of graduates with degree preparation rises. It is evident that there is a need to keep up with changing trends and maintain career mobility.

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In recognition of the diverse backgrounds and learning needs of diploma-prepared RNs numerous Canadian university-based nursing programs (hence referred to as Schools of Nursing or SON) have developed post-RN programs to facilitate the completion of a university nursing degree. They are designed to build on the learning achieved in diploma programs, and are two or three years in duration. Schools with integrated curricula, where RNs and basic (four-years) nursing students complete the same program generally offer academic recognition in the form of advanced placement or block credit for RNs. However, the non-traditional learning experience of RNs normally cannot be used for credit toward a degree. Presumably previous learning and experience are valued regardless of how they were achieved, but questions arise as to how they can be recognized by universities.

One means of assessing whether previous learning is equivalent to traditional course requirements is through the use of challenge examinations. University calendars state that challenge exams can be arranged, but the criteria used to decide whether a candidate will be permitted to challenge a course are unclear. This last point is what prompted the researcher to conduct this investigation. The researcher believed that data obtained from the current study could provide a national picture on this topic and facilitate the development of departmental guidelines for challenge of courses in the new post-RN program at Brandon University.

The purposes of this study were therefore, to: describe opportunities for advanced placement of RNs entering SON programs and the criteria used by SON programs to decide whether courses may be challenged for credit.

Literature Review

Registered nurses return to school with a wealth of knowledge and experience. Most have been employed as nurses, and have rich life experiences and varied social and personal histories (Green, 1987). They have achieved success and recognition within their work environments, assumed leadership positions, developed professionally, and contributed to changes in the quality of care provided within the health care-system. Nurses have taken advantage of learning opportunities such as inservices, conferences and certificate programs, or have read extensively in their areas of interest or specialty. Yet, obtaining university credit for these achievements has not always been possible. Sullivan (1984) states that "Movement from one level to another is sometimes impossible without beginning all over and repeating content already covered in a previous program" (p.156).

Little has been written on the use of challenge for credit within university nursing programs. References are theoretical, written in the early 1970s, and

oriented to the career-ladder approach to curriculum. Moore (1972) argued that challenge examinations should be used to evaluate and recognize previous achievement. Schmiedel (1973) described her struggle to pursue nursing education using a career-ladder approach. She shared her frustration at being required to repeat previous learning and pass proficiency examinations on material for which she had previously received credit.

Hattstaedt and Isaac (1975) discussed the development and implementation of a clinical challenge examination for students who had completed a specific nursing course as part of a career-ladder program and had past education or experience in pediatrics, obstetrics, or geriatrics. They emphasized the importance of consistency among faculty regarding testing processes and the need for providing sufficient testing time. They claimed that generalizations were limited and that the exams should be validated and standardized with a larger test group.

Moore (1976) stated that the trend in the United States was toward an integrated curriculum that recognized the previous learning and experience of RNs with the use of challenge opportunities. The results of a survey of 22 Canadian baccalaureate nursing programs revealed that credit given to RNs for previous education and experience ranged from none to a maximum of 2 years (Moore, 1976). Forty-five percent of the programs indicated that credit or advanced placement for previous courses may be given either by challenge or special assessment; 68% projected increased or continued use of challenge examinations.

Marsh and Lasky (1984) suggested that the assessment of non-traditional learners be accomplished by means of a portfolio that documented their prior knowledge and skills and demonstrated equivalency with specific courses. The authors compared it to a résumé where educational, professional, and personal achievements are documented and reviewed by faculty who make a recommendation for credit. This method was developed due to the fact that challenge examination was stressful and perceived by students to be personally demeaning. Budnick and Beaver (1984), two students who selected the portfolio option, agreed that this method offered them more control and was less stressful than an examination.

MacLean, Knoll, and Kinney (1985) discussed issues related to "credit by examination" (CBE) for nursing and non-nursing support courses in an integrated curriculum. Students received credit for nursing courses if they successfully completed the equivalent of a final examination that was believed to reflect the knowledge required to achieve course objectives. Clinical practica, if required, were completed after the written exam. Students were provided with reference material for preparation and could attempt the

examination only once. The authors acknowledged that CBEs contributed to student anxiety and increased faculty workload. As a result, faculty shifted to using national standardized nursing examinations to measure nursing competency; individuals who passed the exams received 30 advanced placement credits in the generic program.

Keehn and Jacono (1987) stated that written examinations could evaluate non-clinical knowledge, but that critical thinking skills were difficult to measure in this way. They tried "participatory simulation" (interview of a simulated client and preparation of written care plan) combined with a written exam as the method of testing clinical knowledge of RNs. The authors reported that the success rate on challenge exams was high, as was the anxiety experienced by the students writing them.

In summary, there is little theoretical and research literature documenting the use and effectiveness of challenge options in nursing education. Since the 1976 survey (Moore, 1976), membership in the Canadian Association of University Schools of Nursing (CAUSN) has grown from 22 to 29 (32%). With the steady increase in the number of RNs returning to further their education, there are a growing number of opportunities to apply challenge for credit.

Figure 1

Challenge for credit/interview schedule

1. How many RNs do you accept annually to your undergraduate program?
2. Describe any form of advanced placement offered to RNs by your undergraduate program.
3. Do you currently use challenge exams for any theory course in nursing for RNs?
4. Do you currently use challenge exams for any clinical/practice course in nursing for RNs?
5. Describe the criteria used in your undergraduate program to decide whether an RN is eligible for a challenge option.
6. How are students in your undergraduate program informed of the availability of challenge opportunities?
7. If you use challenge exams for theory or practice, what is the procedure for challenging?

Theory:

Practice:

8. How many students chose to challenge one or more nursing courses in the last 3 years?
9. Of those students who chose to challenge one or more nursing courses, how many successfully passed the challenge exam(s)?
10. From your perspective, how adequately do challenge exams assess an RN's knowledge in theory and/or in practice?

Method

A non-experimental descriptive survey design was used to obtain information about the current status of challenge opportunities in the Canadian SON. The target population was 29 Canadian university SON with membership in CAUSN that provide access for RNs to complete a baccalaureate degree in nursing. The researcher's own institution was excluded from the study. The dean, director, or chair of each of the remaining 28 SON was sent a letter requesting their participation. These individuals either consented to participate or designated an alternate representative of the SON to respond. The final sample consisted of 25 respondents (89%). An interview guide (Figure 1) was sent to each SON representative and a telephone interview was prearranged. The duration of the interviews varied from 2 to 46 minutes, being longer in cases where the SON provided challenge opportunities or where clarification of the interview questions was needed.

Results

All participants agreed that RNs return to university with a wealth of experience and knowledge that should be recognized and built upon. All SON provided access to baccalaureate education for RNs through integrated or post-RN curricula.

The number of nurses accepted annually into each program varied according to whether programs were integrated with or independent of the basic baccalaureate program, and whether entrants were full- or part-time. Since the numbers secured during the individual interviews were approximate, data prepared by CAUSN for the 1991 academic period were used (Canadian Association of University Schools of Nursing, 1991). Admissions offered for post-RNs ranged from 0 to 169 full-time, and 1 to 570 part-time, students.

Advanced placement for diploma graduates varied according to the overall baccalaureate program length, number of credit hours or units required for the degree, and whether the program was integrated or post-RN. Advanced placement was commonly in the form of block credit ranging from several credit hours up to a maximum of two years.

Formal or informal challenge opportunities for theory courses were available upon individual student request in 48% of the SON. Formal processes were in place in 20% of the SON, the majority of which were in western Canada. The courses that could be challenged for credit varied from all courses to specific ones determined by faculty. Clinical courses could be challenged in 16% of the SON, all of which were located in western Canada.

Students were informed of challenge options through the university calendar, word of mouth, the student association, during orientation, by faculty upon admission, or a combination of these means.

The SON held different criteria for eligibility for challenge; the following describes the most common procedure. The student challenging a course applies to the university approximately 6 to 8 weeks before the course is offered. The request is sent to the dean or director of the school who refers it to the most appropriate person in the faculty. The student usually provides written and/or verbal documentation to demonstrate that course objectives have been met in alternate ways. Documentation reflects previous employment, education, life experience, and professional or volunteer activities (or a combination thereof). This requirement for extensive documentation to support a request for challenge reportedly discourages students from applying. Letters of reference from employers outlining job responsibilities, and assessment interviews can also be required. These provide an opportunity to point out strengths and limitations of the applicant concerning potential for success on the challenge examination. Interviews help the faculty and/or student make the final decision regarding the challenge option. In two of the SON interviewed, the student's decision to challenge was not questioned and no documentation was required to support the request.

Informal challenge processes were available in 28% of the SON, the majority of which were in Quebec and Ontario. No specific criteria to determine eligibility for challenge were outlined. Students could be exempt from portions of a course or simply write the final exam based on the course professor's assessment of their academic and experiential background.

All SON with a challenge option provided students with a course outline, bibliography, and other resources that might be appropriate for exam preparation; however, no course instruction was offered. If the challenge was permitted, the student was usually required to pay a challenge fee and write an exam and/or complete a clinical component arranged by the course professor. In some cases the exam was held during the regular exam period for the students enrolled in the course.

Participants indicated that, except for one school in the western region, the number of students selecting the challenge option were few, and that they were normally successful. Limited statistics were available on these issues.

There were diverse perspectives regarding the adequacy of challenge exams for assessing theoretical and/or practical knowledge. Most of the SON that used them stated that challenge exams meet a local need. However, there was also agreement on their disadvantages: they provoke student anxiety and

increase the faculty workload. Respondents agreed that challenge exams were useful for measuring knowledge of factual information, but questions and doubts were raised as to how well they measure advanced critical thinking skills. Several respondents shared the perception that students who meet the requirements of a challenge exam should have the same basic knowledge as others completing the course traditionally.

Discussion

The data suggest that the challenge process is not clear-cut. Despite their similarities, the 25 SON programs included in this study were unique in their approaches. Issues relating to student anxiety, increased faculty workload, and ambivalence of faculty regarding the merit and utility of challenge options also appear to have lingered over the past 15 years. These findings are consistent with the literature and may be attributed to the philosophies of the institutions and programs or the individual professors, and/or to the considerable variability in interpretation of the challenge concept.

The data indicate that 48% (12/25) of Canadian SON use a formal or informal challenge examination option. Moore's (1976) survey projected that 68% (15/22) of the SON would continue or anticipated future use of challenge examinations. Had this goal been realized, it would have constituted a 23% increase over the 1976 figures. In reality, the increase was minimal (2.6%) despite a 32% increase in the number of SON over this time period. Various forces may have impeded the development of challenge opportunities as projected: changes in the administrative leadership of SON; the emergence of specialized post-RN programs; hesitance to change in an effort to protect vested interests and maintain the status quo or complexities associated with academic bureaucracies. Finally, perhaps students perceive formal challenge as requiring more energy expenditure than enrolling in the course.

Many questions about the challenge process remain unanswered, and may provide the basis for future research. In subsequent studies perhaps, terms of reference should be established for concepts such as challenge for credit, credit by examination, credit for placement, advanced block credit, and credit by exemption. A national perspective on the challenge concept might be beneficial for faculty and students. It would be interesting to know what the nurses who pursued the challenge option think of the process. How consistently is the informal challenge mechanism applied? What impact do faculty opinions about the challenge process have on students' selection of this option? Do challenge exams measure learning that is in keeping with course expectations? How do challenge procedures encourage or inhibit students from pursuing the option? What impact do criteria for challenge have on a faculty member's academic freedom?

Since the completion of this project, the Department of Nursing and Health Studies at Brandon University has developed and implemented guidelines for challenge (Figure 2). They were drawn from the guidelines used by the Faculty of Nursing at the University of Manitoba, the data generated by this project, the literature, and faculty feedback. It is hoped that the guidelines may be of use to other universities considering similar developments.

Figure 2

Challenge for Credit of the Department of Nursing and Health Studies at Brandon University

Overview

Nursing faculty believe that there are several ways to demonstrate acquired knowledge, behaviours, and skill with respect to courses offered by the Department. Non-traditional learning, normally external to the University, coupled with formal and life experience may be assessed to be equivalent to that offered in specific courses.

General Departmental Guidelines

The student who wishes to challenge a Departmental course should be familiar with the University guidelines outlined in the General Calendar (4.3.9) and complete the documentation required by the University on the form available through the office of the Registrar. A fee for challenge will be levied.

The student should be aware that a course may be challenged only once and that the grade obtained on the challenge will be that which will appear on the transcript and will contribute to the degree line and cumulative grade point averages. Regulations governing grades will be applied to courses challenged. Challenge opportunities will depend on faculty availability.

All courses offered by the Department, except those with a practicum component, to a maximum of 15 credit hours will be available for challenge. Permission for challenge will be subject to approval of the course instructor.

Students who have requested the opportunity to challenge a departmental course may not audit any part of that course. A student who audits a course may, after the course is completed, subject to the approval of the course instructor, be allowed to challenge the course, provided that the challenge fee is paid.

All students requesting the opportunity to challenge a course must be admitted to Brandon University and accepted to the Department of Nursing and Health Studies before their request will be considered.

Departmental Procedures

1. Complete the University Challenge for Credit form available through the Registrar's office.
2. Complete the Departmental Challenge for Credit form and submit it to the course professor at least 6 weeks prior to the beginning of the course.
3. The course professor will meet with the student to discuss the request and subsequently make a recommendation regarding the student's eligibility to undertake the challenge.
4. The course professor will inform the student in writing regarding the decision.
5. The student will then make the appropriate arrangements with the course professor regarding date and time of the challenge.
6. The course professor will not review course material or provide tutorial assistance to the student in preparation for the challenge.
7. The course professor will direct the student to appropriate resources used in the course and provide the student with a copy of the course syllabus.

I. TO BE COMPLETED BY STUDENT REQUESTING TO CHALLENGE A COURSE

Name: _____ Student # _____

Name and number of course to be challenged: _____

Please describe your reasons for selecting the challenge option to meet the requirements of this course and provide appropriate documentation to support your request in the space provided. Additional relevant documentation may be submitted. Documentation would normally be expected to reflect previous employment, education, professional and volunteer activities, and life experiences. Letters of reference from employers outlining job responsibilities relating to the course would be useful.

Student Signature: _____ Date _____

*Guidelines developed by M.A. Andrusyszyn with Department faculty input; adapted from Challenge for Credit from the University of Manitoba Faculty of Nursing.

Equity and Health Care: Analysis of the Relationship Between Need for Care and the Utilization of Nursing Services in Canada

John Eyles, Stephen Birch and K. Bruce Newbold

Cet article se fonde sur les données de l'Enquête sociale Canada (1985) pour examiner les relations entre les besoins en soins de santé et l'utilisation des soins infirmiers. Il passe d'abord en revue les études sur le lien entre l'utilisation et les besoins, puis il établit les hypothèses et les méthodes de l'étude et présente les variables sélectionnées aux fins de l'analyse. L'incidence de l'utilisation des soins infirmiers est estimée en utilisant la ligne de régression des probits. La quantité d'utilisation est estimée avec le modèle correctif: self-selectivity. Les analyses subséquentes explorent les relations utilisation-besoins en découpant l'échantillonnage par niveau de besoin et en examinant les effets de l'interaction. Les résultats indiquent que la probabilité la plus faible d'utilisation des soins infirmiers est associée aux niveaux de besoin les plus faibles, au sexe masculin, aux personnes mariées et aux niveaux d'éducation les plus faibles. Le besoin est également associé de manière significative au nombre de contact avec les soins infirmiers. Le revenu n'est pas une variable significative, mais le niveau d'importance de la relation utilisation-besoins est influencé par des variables socio-économiques et démographiques, suggérant ainsi la nécessité d'analyses désagrégées.

This paper examined the relationships between need for care and the utilization of nursing services using data from the 1985 Canada Social Survey. The incidence of nursing utilization was estimated using probit regression, and the quantity of utilization, using a self-selectivity model. Further analyses involved exploring use-need relationships by partitioning the sample by need level and by examining interaction effects. It was found that a lower likelihood of using nursing services was associated with lower levels of need, males, married persons, and lower levels of education. Need was also significantly associated with the number of contacts with nurses. While income was not significant, the size of the use-need relationship was affected by socioeconomic and demographic variables, pointing up the necessity of disaggregated analyses.

Since the introduction of the Hospital Insurance and Diagnostic Services and Medical Acts and their consolidation through the passing of the 1984 Canada Health Act, much attention has been focused on whether Canadian citizens enjoy "reasonable access" to insured health-care services. The stated objective of the legislation was to protect, promote, and restore the physical and mental well-being of Canadians and to facilitate reasonable access to health services

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without financial or other barriers. No definitions of "reasonable" or "access" were provided, and research has focused on the relationships between the price of care, levels of income or wealth, and levels of utilization. If financial barriers do not exist in terms of observed differences in utilization across income groups then reasonable access is achieved. Such research (e.g., Barer, Manga, Shillington & Segal 1982; Boulet & Henderson, 1979) interprets reasonable access as equal use of services across populations heterogeneous in ability to pay irrespective of their need. However, little attention has been given to the role of needs for health care in explaining variations in the use of health-care services. As Manga (1987, p. 640) noted, "If there is in fact a negative relationship between the need for medical care and income class...then a situation in which there is no statistical difference in the utilization of medical care by income class may still be inequitable."

Literature Review

Considerable efforts have been made in the literature to model utilization behaviour in ways which explicitly recognize the influence of need (Aday & Anderson, 1974; Anderson, 1968; Anderson & Newman, 1973; Becker, 1974; Joseph & Phillips, 1984; Rosenstock, 1966). Anderson (1968) proposed a model of utilization in which the explanatory variables were categorized as follows: variables that predispose towards utilization (e.g., family composition, social structure), those that enable utilization (e.g., income, insurance status); or need factors which generate the purpose of utilization. The same categorization was used by Andersen and Newman (1973) and Aday and Andersen (1974), but in the broader context of existing health-care systems. However, even if the factors in this model predict utilization, the organization and structure of the health-care system may inhibit or prevent it. Accessibility, in terms of whether persons in need of care receive it, has a separate influence on utilization.

Although the Aday and Andersen model has formed the basis for much of the empirical literature on health-care utilization over the last 15 years, several authors have questioned its conceptual basis (Arling, 1985; Mechanic, 1979; Rundall, 1981; Wolinsky, Coe, Miller, Prendegast, Creel & Chavez 1983; Wolinsky & Coe, 1984). Rundall (1981) suggested that the additive forms of the empirical models employed in the research fail to capture the conditional elements of the underlying conceptual model. Similarly Arling (1985, p. 370) argued that "...the distinctions that have been drawn between need, enabling, and predisposing conditions have heuristic value but may obfuscate the causal relationships in the model. The hierarchical, additive approach of regressing health service use on these broad categories of predictor variables tends to obscure the mediating effects of factors such as psychologic distress, activities of daily living, impairment, social support and economic status."

Some studies of health-care utilization in Canadian populations have introduced indicators of, or proxies for, need as an explanatory variable (Broyles, Manga, Binder, Angus & Charette, 1983; Enterline, Salter, & McDonald, 1973; Manga, Broyles & Angus, 1987; Roos & Shapiro, 1981). For example, Broyles et al. (1983) and Manga et al. (1987) used multiple regression analysis and a simple additive model to estimate the relative importance of need in explaining variations in health-care use. A major limitation of this work is that the need variables available to the authors tended to be either directly or indirectly related to health care utilization (e.g. previous use of prescribed medicines) and hence did not represent the independent effect of need on use (see Birch & Eyles 1992). Moreover, in the empirical model used by the authors any influences that need, income or any other explanatory variable might have on use is assumed to be independent of other influences. In addition, there is a potential for biased estimates in their analyses because they fail to recognize that users of care are a self-selected group from within the population sample of users and non-users, and this violates the normality condition of the multiple regression technique used.

Several non-Canadian studies have gone beyond looking at the relative importance of different explanatory variables and considered the relationships between use and need more directly (Blaxter, 1976; Blendon et al., 1989; Forster, 1976, 1977, 1979; Greenberg et al., 1988; Hayward, Shapiro, Freeman & Corey 1988; Le Grand, 1978; Newachek, 1988; Wenneker & Epstein, 1989). These studies point to significant variations in the relationship between use and need across population groups differing in some other explanatory variable (e.g., income). However, both Collins and Klein (1980) and O'Donnell and Propper (1991) showed that analyzing variations in use across groups heterogeneous in needs produced biased estimates of use-need relationships if utilization occurred among those reporting no needs. It is therefore important to look beyond comparisons of simple use-need ratios in order to address the question of reasonable access and analyze the interaction of need with other explanatory variables (e.g., identify factors which explain variations in use of services among populations with similar levels of need).

Ronis and Harrison (1988) evaluated the use of interaction terms in studies of physician use, and showed that their inclusion is unlikely to lead to large increases in explanatory power, particularly if there is substantial measurement error in predictor variables. Furthermore, the use of interaction terms increases significance occurring by chance alone (i.e., inflates the alpha level), reduces the degrees of freedom leading to restrictions in the sensitivity of significance tests, and can be confounded with non-linear effects. Nevertheless, they argued that these concerns should not discourage analysts from including interaction terms where a priori reasons exist for such effects since they can help in understanding relationships. In other words interaction

terms should be used sparingly and carefully and not without an underlying rationale. Significant effects have been found where interactions between explanatory variables were included in utilization models (Arling, 1985; Puffer, 1987; Sharp, Ross & Cockerham 1983; Winter 1987). In particular, both Puffer (1987) and Winter (1987) found that specific interactions between need and socioeconomic status were significant in explaining observed variations in use and improved the overall performance of their model.

Purpose

The purpose of this paper was to explore the relationship between use and need in the context of nursing services in Canada. The authors used analytical methods that reflect the selectivity of users of care and the conditional nature of utilization while employing indicators of need that are less confounded by prior use of health-care services. Existing research on the utilization of nursing services has been concerned largely with evaluating the use of nursing as a substitute for other health care inputs (e.g., Bishop, 1988; Carnevali & Little, 1976; Prescott, Janken, Langford & McKay 1983; Shukla, 1983; Williams & Fitton, 1991). It may be that there has been little research focused on nursing services in Canada because they are not an insured service in the Canada Health Act, and hence reasonable access to them is not a policy goal. The Federal government states that the principle of reasonable access should be applied to "necessary hospital and physician services" (Health and Welfare Canada, 1989). Nevertheless, given that nursing is the largest health-care profession in Canada (Taylor, 1986), with 134 people per active nurse compared to 506 per active physician (Health and Welfare Canada, 1985), it seems appropriate to consider whether the deployment of nursing services is in line with needs for services, especially given the apparent invisibility of nursing care (Lawler, 1991). One question of interest is whether the population distribution of utilization of nurses corresponds to the distribution of relative levels of need for health care.

Method

The first stage of the analysis considered the importance of variations in need (as proxied by self-assessed health status) in explaining the distribution of the incidence and quantity of service utilization. The second stage of the analysis considered which factors were associated with variations in the use of nursing services in relation to need for care. Thus, the following null hypotheses were tested:

1. In a fixed time period the probability and level of utilization of nursing services are independent of need.
2. The relationship between level of utilization of nursing services and need for services is independent of income, education, province or region of residence, and social support.

The data used for testing the hypotheses were from the 1985 General Social Survey (GSS) (Statistics Canada, 1987). This national survey of the non-institutionalized population age 15 years or older collected data on individuals' reported health-care utilization, their self-assessed health status and well-being, various sociodemographic and socioeconomic variables, and other behavioural characteristics. Data had been collected by personal interview of persons in the sample aged 65 and over, and telephone interview of those 15 to 65 years old. A random sample size of about 13,000 (approximately one per 2,000 population) was obtained through the survey. The overall response rate was 84.2 percent. The main exclusions from the sample were the Yukon and North West Territories (both samples) and persons living on Indian Reserves (the elderly sample). The elderly sample was based on households previously surveyed for the Labour Force Survey. The non-elderly sample was allocated between provinces on the basis of the square root of the provincial populations. For the estimated variances of variables to be meaningful, weighting of the sample data was required to allow for the differential probability of inclusion in the sample. Weighting was performed using the weights developed by Statistics Canada for use in analyzing the GSS data set (Statistics Canada 1987).

It should be noted that the data on both use and need are based on self-reports and depend upon the recall and awareness of respondents. Nevertheless, there is substantial empirical support for the validity of self-assessments of health as measures of health status (Davies & Ware, 1981; Kaplan & Camacho, 1983). Self-assessed health has been observed to perform better as a predictor of future mortality than other more conventional measures of health status (Idler, Kasl & Lemke 1990; Mossey & Shapiro, 1982). This suggests that self-assessments are probably as good a proxy for health care needs at the population level as alternative indicators. Moreover, unlike most other large population surveys, the GSS provides information on needs independent of service use. Consequently, it was one of the few data sources available to address our research questions.

The variables selected for use included: the use category of nurse contacts (number of times); the need category of general health; the predisposing category which contained sex, age, marital status, region of residence, employment status, activity level, degree of community contact, smoking, drinking, and life satisfaction; and the enabling category which included household income, level of education, and household tenure. The nursing utilization variable was based on response to the question: "During the last 12 months, how many times did you see or talk to a nurse?" With the exception of income, all of the explanatory variables were categorical.

Four proxy variables for need were selected from the source data set; all were independent of current utilization. These were: individuals' assessment of their general level of health, satisfaction with their own health defined over four categories, the presence or absence of long-standing limiting illness, and the number of days in the previous two weeks that individuals' activities were limited by their health. Other health status variables available in the data set were not included because they were defined in part by health-care use (e.g., since the number of days confined to bed with illness included hospital days, it was not independent of the measure of hospital utilization). Correlation coefficients among the four selected proxies ranged from 0.24 (between days of activity limitation and the incidence of long-standing limiting illness) to 0.56 (between health satisfaction and general health), indicating a considerable level of intercorrelation.

The general health measure was selected as the preferred indicator of need for two main reasons: there is considerable support in the health-services research literature for its validity as a measure of health (Davies & Ware, 1981) while the validity of the other measures is less well established; and the distribution of the responses for this variable was less skewed than with the other three proxies for need. Neither the estimated relationships between use and need nor the estimated coefficients for the other explanatory variables changed noticeably when equations were estimated using each of the four proxies separately. Similarly, the overall significance and explanatory power of the equations was not affected in any significant way.

The first null hypothesis was tested using two approaches. First, the incidence of nurse utilization was estimated using probit regression, since the dependent variable (use or no-use) is dichotomous and assumed to be a non-linear function. The advantage of the probit model over ordinary least squares regression (OLS) is that it constrains the probability of contact (or use) to lie between 0 and 1. The probit model was defined by:

$$P_u = F(\alpha + \beta X_i)$$

where P_u is the probability of the event occurring, F is the cumulative probability function, X_i is a vector of independent variables, α is a constant, and β is a vector of estimated coefficients. Since the function is non-linear, a maximum likelihood procedure was used to estimate the coefficients. Bivariate or multivariate representations were created because most of the variables included within the model were categorical. One value of each variable was selected as the reference value, and a series of dummy variables created. For example, the reference category for general health (the need proxy) was *poor health* and dummy variables were created for the levels of *excellent*, *good*, and *fair health*. Following Aday and Andersen (1974), explanatory variables were entered in blocks into an equation for use of services according to the *need*,

predisposing or *enabling* categorization. Variables were entered additively and forced into the equation based on a priori expectations concerning the relationship between use and the explanatory variable. Only 'activity level' and 'housing tenure', if significant, were allowed to enter the model, since no a priori expectations were held.

As in OLS, the t-test determines whether a particular parameter differs from zero. Goodness-of-fit of the model is evaluated by the likelihood ratio test (LR) and rho-squared. The LR, similar to the F-test in OLS, measures the overall significance of the model. Rho-squared fulfills much the same role as R-squared in OLS in that higher values indicated greater explanatory power, but unlike R-squared, it is not a measure of the percentage variation explained by the model.

The second stage of the analysis focused upon the quantity of nurse use recorded by the subset of the sample population who had had at least one nurse contact over the previous year. Since counts of events must be non-negative integers, a discrete distribution such as the Poisson distribution provides a more appropriate basis for analysis of these data than the normal distribution underlying OLS regression (Flowerdew & Lovett, 1988). However, the observed value of the dependent variable is a count of independent events generated by a Poisson distribution. Hence, where the occurrence of one event increases the probability of others, as might be the case in health-care utilization where the number of events is not necessarily independent of supply factors, the use of Poisson regression is not appropriate.

In situations where the independence assumption is violated, the negative binomial model provides a close approximation to the Poisson model (Johnson & Kotz, 1969). However, use of the negative binomial model does not allow for self-selectivity bias within the sample. Because users of nursing services may be self-selected (i.e. differ systematically from the rest of the sample in ways not known to the researcher), any estimates of the relationship relying upon traditional OLS estimation techniques may be biased and lead to false inferences about causality. In this situation, the quantity of use equation (represented by the total number of nursing contacts) was estimated using a self-selectivity model, and quantity of use estimated using a two-stage estimation technique following Heckman (1979) and Maddala (1983). A correction factor (λ) was estimated using probit analysis on the full sample and then entered into a least-squares regression of number of nurse contacts on *need*, *predisposing* and *enabling* variables. The statistical significance of the λ variable was an indicator of whether the correction was statistically important.

The second null hypothesis was to be tested in two ways. First, the sample was partitioned by level of need and the two-stage estimation procedure applied to each level. If the explanatory variables were significant in explaining variations within groups homogeneous in need, this indicated that factors other than need were associated with the distribution of utilization amongst the population (i.e. horizontal inequity). On partitioning, sample size problems prevented the use of this analysis for nursing services, although it was successfully completed elsewhere for physician services (Birch, Eyles & Newbold 1993) and hospital utilization (Newbold, Eyles & Birch 1993). Secondly, to further explore this relationship and use the variation in the need variable as part of the analysis in particular, the model was re-estimated for the full subsample of users with interaction terms between need and specific explanatory variables based upon the findings of the disaggregate analysis.

Results

Incidence of nursing service utilization

The estimated coefficients (B) and 95 percent confidence intervals (CI) for the probit regressions of use – no use of nurses on the explanatory variables are shown in Table 1. The equation was significant ($p < 0.05$ one-tailed test) with a rho-squared of 0.046. This value, although low, is not atypical for studies of this type (see McFadden 1974). However, lower levels of need were associated with a significantly lower likelihood of having used the service ($p < 0.05$ two-tailed test). As would be expected, the likelihood of use increased with increasing need. However, predisposing variables (age, sex, marital status, region, etc.) contributed the greatest proportion of the explained variation.

Men were significantly less likely to have used nursing services than women. Although the difference is not significant, the likelihood of use was greater among those aged 15 to 19 and 20 to 24 years old than among those aged 75 and over. The incidence of use of nurse services was significantly lower among the employed. However, this probably reflects a correlation between employment status and health (the "healthy worker" effect), particularly since the employment categories specified are conditional on health (e.g., permanently unable to work or sick). Household income was positively correlated with the likelihood of having used the service, although the relationship was not significant. There was a trend for higher levels of education to be associated with greater likelihood of having used nurses. This might be because a high proportion of ambulatory nursing tasks are associated with prevention, which less-educated groups may be less likely to have used. Higher levels of community contact were associated with a lower likelihood of having used nursing services, possibly because such individuals consulted friends and/or family before referring themselves to the formal health-care

Table 1**Probit Regression: Incidence of nursing service utilization**

Explanatory variables		B	CI
General Health	Excellent	-0.654*	(-0.86,-0.45)
	Good	-0.660*	(-0.86,-0.46)
	Fair	-0.404*	(-0.61,-0.20)
Sex	Male	-0.092*	(-0.18,-0.00)
Age	15-19	0.056	(-0.24,0.35)
	20-24	0.145	(-0.11,0.40)
	25-44	-0.006	(-0.23,0.21)
	45-64	-0.062	(-0.27,0.15)
	65-74	-0.075	(-0.29,0.14)
Marital Status	Married	-0.255*	(-0.43,-0.08)
	Single	-0.113	(-0.32,0.09)
	Widow	-0.082	(-0.32,0.16)
Region	Quebec	-0.227*	(-0.40,-0.05)
	Ontario	0.079	(-0.08,0.24)
	Prairies	-0.049	(-0.23,0.13)
	B.C.	-0.077	(-0.28,0.12)
Employment	Working	-0.201*	(-0.31,-0.09)
	Sick	0.437*	(0.17,0.70)
	Looking	0.106	(-0.09,0.30)
Community Contact	Frequent	-0.350	(-1.08,0.38)
	Infrequent	-0.321	(-1.05,0.41)
Smoking	Daily	-0.113*	(-0.21,-0.02)
	Occasional	0.008	(-0.18,0.19)
Drinking	Daily	-0.064	(-0.10,0.22)
	Occasional	0.80	(-0.01,0.17)
Household income (000s)		0.002	(-0.00,0.01)
Education	No SSGD	-0.126*	(0.25,-0.01)
	SSGD	-0.515*	(-0.64,-0.39)
	Some Post-Secondary	-0.019	(-0.14,0.11)
Constant		0.113	(-0.69,0.91)
LR-Test		212.4*	
Rho-Squared		0.046	
N		6805	
Overall % Correct		89.4	

*p<0.05

Note: B = Beta Coefficient; CI = Confidence Intervals;
SSGD = Secondary School Graduate Diploma

system. Similarly, married people were significantly less likely to have had contact with a nurse than divorced people. Residents of Quebec were significantly less likely to have used nursing services than those in Atlantic Canada. Ontario was the only region with greater likelihood of use than Atlantic Canada, although the difference was not statistically significant. This might be explained by the levels of availability of nurses: Ontario-10.1/1000; Atlantic Canada-8.66/1000; Quebec-8.5/1000 (1985 figures) (Health and Welfare Canada, 1990).

Overall, these results are in keeping with our investigations of physician services and previous research (Broyles et al., 1983; Manga et al., 1987); the former used a different data set and statistical approach. Lower health status was found to be associated with a significantly greater likelihood of having used services, but the latter had no significant relationship or consistent association with income.

Although the nature of many of the variables and the level of aggregation used indicate that the results should be interpreted with caution, they suggest that distribution of the incidence of utilization of nursing services in the population was related to need or indirectly related factors (i.e., vertical equity in incidence of use). Moreover, the distribution of incidence of use was largely unrelated to factors other than need (i.e., horizontal equity in incidence of use).

Quantity of nursing service utilization

As earlier mentioned, because users were not a random selection of the study sample of users and non-users, the assumptions of OLS regression were violated and a two-stage estimation procedure was required. Failure to recognize this problem of mis-specification arising from selectivity in the subsample of users could lead to biased estimates. In this procedure, the lambda variable was the correction factor estimated in the first stage of the two-stage procedure which was then entered as an explanatory variable in the second stage. A significant coefficient on lambda indicates that selectivity in the sample does occur and affects the estimates in statistically important ways.

The coefficients estimated using the two-stage procedure for the number of nurse contacts in the previous year is shown in Table 2. Because the number of individuals recording some use of nursing services was only 763, the confidence intervals and coefficients are large and estimated relationships are less likely to be statistically significant. Of all of the variables in these equations only the relationship between number of nurse contacts and need is statistically significant. Those in excellent health were estimated to have 12.11 (CI 18.9, 5.82) fewer nurse contacts than those in poor health. Those in good

Table 2**Two-stage estimation: Quantity of nursing utilization**

Explanatory variables		B	CI
General Health	Excellent	-12.11	(-18.9,-5.32)
	Good	-10.93*	(-17.59,-4.27)
	Fair	-7.74*	(-13.13,-2.34)
Lambda		11.01*	(1.13,20.90)
R-Squared		0.212	
Adjusted R-Squared		0.181	
F		6.82*	
N		763	

* $p < 0.05$

Note: Only significant results reported. Full tables available from authors on request.

and fair health also use fewer services than those in poor health although the difference is greater with good health than with fair. Notwithstanding the lack of significance with the remaining variables, the signs and relative size of estimated coefficients were consistent. Residents of the Atlantic Provinces were estimated to have more nurse contacts than those of all other regions. The very elderly, divorced individuals, and the unemployed were found to have fewer nurse contacts than their counterparts. Those with some community contact were likely to utilize nursing services more than those without such contact. This may not imply that social support in the community increases the need for nursing services, but rather that the likelihood of use increases when an individual in need has social support. These findings fail to indicate that lower income groups make greater use of nurse services, other things equal.

Interactions among explanatory variables

The assumption of linearity was relaxed in the equation for utilization. The first stage of this part of the analysis was to partition the subsample of users into categories according to need (excellent, good, fair, or poor health status). An equation for use was then estimated for each different need group using the same two-stage procedure. In this way it was possible to treat the four subsamples as distinct populations. By so doing it is possible to explore the extent to which relationships observed at the aggregate level are general to the full sample and identify relationships that exist between use and other variables but are confined to certain subgroups and hence are not identified by analyses of all users. Unfortunately, when the sample reporting nursing

contact in the last year was broken down into subgroups, the cell sizes were too small to perform the analysis. It may be possible for those who are interested and have access to larger data sets to follow the logic of our approach. Those interested in the kinds of results produced are referred to the authors' previous investigation of physician services (Birch et al., 1993).

The separate analysis of utilization within subgroups is one way of testing for interactions between explanatory variables. In particular, it tests whether there is a conditional relationship between the two variables of interest, i.e., a relationship that is conditional upon a particular level, or range of levels, of need. Although this approach is consistent with the underlying conceptual model, it does not make full use of the data, nor employ the variation in the need variable as part of the analysis. The inclusion of interaction terms between the particular variables of interest and the need variable overcomes this limitation. However, because the need variables (as well as most of the other variables in the analysis) are categorical, only simple orderings can be imposed on them. Although this implies that the magnitudes of the estimated

Table 3

Two-stage estimation: Quantity of use with need-income interaction

Explanatory variables		B	CI
General Health	Excellent	-7.229*	(-14.20,-0.26)
	Good	-5.238	(-11.29,0.82)
	Fair	-3.345	(-8.66,1.97)
Age	15-19	-4.107	(-8.61,0.48)
	20-24	-3.960*	(-7.68,-0.24)
	25-44	-4.714*	(-8.04,-1.38)
	45-64	-3.325*	(-6.62,-0.03)
	65-74	-3.654*	(-6.92,-0.38)
Household Income (000s)		0.100	(0.001,0.02)
Need-Income Interaction	Exc-Income	-0.089	(-0.20,0.02)
	Good-Income	-0.11*	(-0.22,-0.003)
	Fair-Income	-0.01	(-0.13,-0.10)
Lambda		5.586	(-4.19,15.36)
R-Squared		0.183	
Adjusted R-Squared		6.329*	
F		6.329*	
N		763	

*p<0.05

Note: Abbreviations as Table 1. Only significant results and interactions reported.

coefficients of the interaction terms are not meaningful (since the numbers on which they are based have ordinal meaning only), a significant increase in the explanatory power of the equation indicates that the interactions are important contributors to explaining variation in utilization.

The interactions between income and levels of need are shown in Table 3. Although the explanatory power of the equation did not increase significantly and lambda was not significant with the addition of need-income interactions, there were some interesting findings. Use was still inversely related to need, but the relationship was statistically significant only for excellent health. Further, for nearly all age categories, the lower number of contacts with younger ages become significant in this analysis. The income-use relationship also becomes statistically significant. When examined as a direct association, higher income is related to greater quantities of use. When, however, the need-income interaction is analyzed, the sign is reversed so that those with lower levels of need have fewer nursing contacts compared with those in poor health, given particular levels of income. Although this is interesting, these findings must be treated cautiously because of the small sample size.

Table 4

Two-stage estimation: Quantity of use with age-sex interactions

Explanatory variables		B	CI
General Health	Excellent	-11.835*	(-18.54,-5.13)
	Good	-10.660*	(-17.23,-4.09)
	Fair	-7.552*	(-8.66,1.97)
Sex	Male	0.038	(-3.64,3.71)
Age	15-19	-4.405	(-12.00,3.19)
	20-24	-4.214	(-10.64,2.21)
	25-44	-5.584	(-11.44,0.27)
	45-64	-3.853	(-8.85,1.15)
	65-74	-4.131	(-9.17,0.90)
Need-Income Interaction (20-44) female		1.057	(-3.60,5.71)
Lambda		10.541*	(0.65,20.43)
R-Squared		0.212	
Adjusted R-Squared		0.180	
F		6.57*	
N		763	

*p<0.05

Note: Only significant results and interactions reported.

Table 5**Two-stage estimation: Quantity of use with need-education interactions**

Explanatory variables		B	CI
General Health	Excellent	-20.389*	(-32.00,-8.77)
	Good	-18.920*	(-29.82,-8.02)
	Fair	-16.727*	(-27.63,-5.83)
Education	No SSGD	-11.246*	(-20.33,-2.17)
	SSGD	-13.927	(-33.87,6.01)
	Some Post.	-12.790	(-28.78,3.20)
Need-Education Interaction	NOSSGD-EX	10.824	(-0.22,21.87)
	SSGD-EX	12.899	(-7.99,33.79)
	SOMEPOST-EX	13.476	(-3.93,30.88)
	NOSSGD-GOOD	10.141*	(0.42,19.87)
	SSGD-GOOD	13.747	(-6.90,34.39)
	SOMEPOST-GOOD	11.402	(-5.18,27.99)
	NOSSGD-FAIR	10.759	(-0.21,21.73)
	SSGD-FAIR	14.117	(-7.54,35.77)
	SOMEPOST-FAIR	15.271	(-3.22,33.76)
Lambda		11.495	(1.32,21.67)
R-Squared		0.230	
Adjusted R-Squared		0.189	
F		5.69*	
N		763	

*p<0.05

Note: Only significant results and interactions reported. Abbreviation as Table 1.

The interactions between age and sex are presented in Table 4. While the coefficient of interaction was positive, it was not significant. The only statistically significant finding concerned use and need. The quantity of use with need-education interaction estimations are shown in Table 5. While the caveat concerning sample sizes still applies, the size of the education effect remains similar among the levels of need. What is of interest is the increase in size of the direct effect (Table 2 compared with Table 5), the increase in explanatory power from the general (adjusted R^2 0.181), to the interaction model (0.189) and the change in sign – the negative direct relationship is consistent, but the interaction estimations show a positive relationship between education and need.

Finally, as it was not possible to estimate the interaction between nursing contact and community contact because of cell size problems, only need-

region interactions are presented in Table 6. There are some differences between this and the general model; notably the significance of the need variables in explaining observed variations in use disappears. With respect to region of residence, all regions showed greater numbers of nursing contacts than Atlantic Canada (and Ontario significantly so). When we examined the need-region interactions, all need groups in all regions showed fewer nursing contacts than individuals in poor health in Atlantic Canada. In this case region may well be acting as a proxy of the health-care delivery system. Compared with Atlantic Canada, Quebec and the Prairies have fewer nurses per 1000 population, B.C. has the same ratio, and Ontario has more. When looked at regionally, the pattern is roughly consistent but complex.

Table 6**Two-stage estimation: Quantity of use with need-region interaction**

Explanatory variables		B	CI
General Health	Excellent	-1.927	(-12.26,84.1)
	Good	0.285	(-9.40,9.97)
	Fair	0.382	(-8.09,8.85)
Region	Quebec	2.786	(-3.09,8.696)
	Ontario	7.978*	(2.50,13.26)
	Prairies	1.103	(-6.46,8.67)
	B.C.	0.737	(-8.07,9.54)
	Quebec-Ex	-3.574	(-10.23,3.08)
	Ontario-Ex	-8.828*	(-15.36,-2.30)
	Prairie-Ex	-1.941	(-10.48,6.60)
	B.C.-Ex	-2.563	(-12.04,6.92)
	Quebec-Good	-5.904	(-12.46,0.65)
	Ontario-Good	-9.806*	(-16.18,-3.44)
	Prairie-Good	-2.941	(-10.68,4.80)
	B.C.-Good	-2.667	(-11.75,6.42)
	Quebec-Fair	-2.467	(-9.30,4.36)
	Ontario-Fair	-8.240*	(-15.08,-1.40)
	Prairie-Fair	-2.115	(-10.53,6.30)
	B.C.-Fair	-4.902	(-14.80,5.00)
Lambda		2.094	(-9.32,13.50)
R-Squared		0.236	
Adjusted R-Squared		0.193	
F		5.45*	
N		763	

*p<0.05

Note: Only significant results and interactions reported.

Discussion

Thus far results have been presented by level of analysis. In this discussion, particular attention will be paid to whether the relationships observed between the dependent and explanatory variables are common to incidence and quantity, or specific to one or the other level. In particular, relationships between one explanatory variable and both incidence and quantity of use of a service might be explained by the particular variable representing aspects of need which are not picked up by the general health measure. However, observed relationships with a particular variable that differ between levels of analysis cannot be explained by differing needs alone. So for example, if lower education was associated with greater needs for care, but in ways which were not identified by the general health assessment, then we would expect to observe a positive coefficient on the education dummy variable in both incidence and use equations. Where this is not the case, we need to look to other explanations, such as education-related barriers to access. However, there are no education-related barriers to the quantity of service received. So once accessed, the system performs as posited by the Canada Health Act.

The relationship between use of nursing services on the one hand and need and other explanatory variables on the other was largely consistent for both incidence and quantity of use. Lower levels of need, males, married persons, and lower levels of education were all associated with lower likelihood of having used nurses and less frequent use, although only need was significant for both incidence and quantity of use. Some inconsistencies were observed for region and community contact, although none of these relationships were significant. Residents of Ontario were found to be more likely to have used nurses, but had fewer contacts than residents of the Atlantic provinces. Given the relatively large supply of nurses in Ontario this might be explained by the presence of barriers to establishing initial contacts, such as might arise from inappropriate referral systems or uneven distributions of nurses. Similarly, those with greater levels of community contact were observed to be less likely to have used nurses, but to have used nurses more frequently than those with less community contact.

We would have liked to include a measure of ethnicity as an explanatory variable in this study, but data set provided this information only in the form of mother tongue: English, French and Other. As we would expect, there was a strong correlation between this variable and the region variable, which would affect the estimation of coefficients. Moreover, because the Other group was too small, only analysis of anglophone-francophone ethnic issues would be possible. Ethnicity was therefore excluded from the analysis. However, any significant findings concerning differences in utilization rela-

tive to needs between regions (particularly between Quebec and the other regions) might be the result of, *inter alia*, ethnic differences.

While it was not possible to partition the sample by need subgroup, interaction modelling did alter the picture, especially with respect to income, region, and education. Income and region became important (often significant) with respect to need, mainly in line with expectations. The findings for education were more complex. In any event, the utilization of nursing services in Canada requires further investigation with respect to these variables.

It is important to note that, in the main, the incidence and level of utilization of nursing services was related positively to the level of need for those services as proxied by individual's self-assessments of health status. Further, the incidence and level of utilization were largely independent of household income. While the relationship between use of services and need was independent of income, systematic and in some cases significant relationships were observed between the size of the use-need relationship and particular socio-economic and sociodemographic variables. Thus, our disaggregated analysis, although made exploratory by the survey question and sample size, suggests that analysis of utilization at the aggregate level of population can conceal important and policy-relevant relationships while revealing others that are essentially artifacts of inappropriate aggregation. In particular, populations of users of care represent neither a random selection of the total population, nor a homogeneous group of service users. The use of interactions between need and other variables to explain variations in utilization indicates that users of care were a mixture of essentially heterogeneous groups. Within these groups utilization appeared to vary in ways indicative of the existence of barriers to reasonable access to services, but in ways which differed between groups.

We conclude, therefore, that policy-informing exploration of issues of reasonable access to health-care delivery should recognize explicit heterogeneity in population samples. The findings of this analysis were limited by the fact that the types of nurse and contact were not specified, and by the small sample size. Nevertheless, they indicate that barriers to reasonable access, other than income, do exist. We have, though, pointed to some hypotheses concerning nursing services that may warrant further and more detailed investigation. When such hypotheses have been tested, we may be better able to assess the policy implications of the relations between need for care and utilization of services, especially with respect to access to different types of service such as nurses, physicians, and specialists. Such implications require a more precise data set for adequate appraisal and treatment, although this exploratory research indicates that the distribution of services with respect to the population served may require attention.

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How to Critique Qualitative Research Articles

Cheryl Forchuk and Jacqueline Roberts

The critique of qualitative research requires the use of different standards and criteria than are used for quantitative research. The great diversity of available qualitative methods can make evaluation or critical appraisal difficult for consumers of research who are less familiar with these methods. The current paper suggests that the following guidelines be used when a qualitative research paper is being examined: the topic must be appropriate for qualitative enquiry; the specific qualitative research method chosen must "fit"; the literature reviewed should be consistent with the method chosen; there should be ample description of informants or participants, context, and researcher; appropriate methods for information gathering and information analysis should be employed; the conclusions should be sound; and, the research must have some importance and relevance.

Comment critiquer les articles de recherche qualitative: La critique de la recherche qualitative exige l'utilisation de normes et de critères différents de ceux utilisés pour la recherche quantitative. L'énorme diversité des méthodes qualitatives disponibles peut rendre l'évaluation ou la critique difficile pour des «consommateurs» de recherche qui n'ont pas l'habitude de ces méthodes. Le présent article propose que les lignes directrices suivantes soient respectées lorsqu'une recherche qualitative est examinée : le sujet doit être adapté à une étude qualitative; la méthode de recherche qualitative spécifique choisie doit convenir; la documentation étudiée doit être compatible avec la méthode choisie; la description des informateurs ou des participants, du contexte et du chercheur doit être abondante; on doit employer les méthodes adéquates pour la collecte d'information et pour son analyse; les conclusions doivent être sensées et la recherche doit revêtir une certaine importance et une certaine pertinence.

Research must be read with a critical eye. Guidelines for examining quantitative research methodologies have been documented (Brown, 1991; Sackett, Haynes, & Tugwell, 1985), but similar guidelines for qualitative studies are not as numerous. This led the authors to devise a set of guidelines suitable for students in an undergraduate nursing program and to clarify some of the purposes and elements of qualitative research. Health professionals who are unfamiliar with the purposes and appropriate standards of qualitative research may also be ill-equipped to critique it. It is therefore hoped that these guidelines might also introduce them to qualitative methods.

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Literature Review

Knafl and Howard (1984) suggest that critique of a study is based on the match between its purpose and the other elements of the study. Difficulties in understanding and evaluating qualitative research stem from confusion over its underlying nature and purposes. Leininger (1985b) defined qualitative research as that which "...refers to the methods and techniques of observing, documenting, analyzing and interpreting attributes, patterns, characteristics, and meanings of specific, contextual or gestaltic features of the phenomena under study" (p. 5). Cobb and Hagemaster (1987) suggested that it includes: attention to the social context; understanding the social world from the participants' point of view, and is primarily inductive. The major data collection techniques cited include interviewing, participant observation, examination of personal documents and other printed materials (p. 138). These authors also pointed out that quantitative and qualitative analysis differ in that the former is generally presented numerically and the latter narratively.

There is some debate within nursing and other disciplines as to whether quantitative and qualitative methods should be categorized as completely distinct and incompatible (Leininger, 1985b; Moccia, 1988; Parse, Coyne & Smith 1984; Phillips, 1990), or as simply different choices or points on a continuum, and compatible for combined use (Cobb & Hagemaster, 1987; Denzin, 1970; Goodwin & Goodwin, 1984; Reichardt & Cook, 1979; Tripp-Reimer, 1985).

Qualitative research includes a vast array of methods and designs. Each method reflects a different tradition (Jacob, 1987) and is reported in a unique format. Knafl and Howard (1984) suggest that the absence of a standard format for reporting makes it difficult for even the methodologically sophisticated reader to assess the validity of a qualitative study.

According to Parse et al. (1985) qualitative research assumes that the understanding of a phenomenon is possible only through understanding the whole rather than parts of the whole. Phillips (1990) suggested that reality is viewed as dynamic, acausal, and inherently subjective. Criteria used to evaluate qualitative research must take this into account. To use qualitative research rather than quantitative research is to choose an open-system rather than a closed-system perspective; relative and contextual knowledge over absolute knowledge; and understanding and explanation of phenomena rather than prediction and control of them (Moccia, 1988 p. 8).

To critique qualitative research findings, Morse (1991) suggested that the entire article should first be read to assess it for significance. The research must contribute to the development of knowledge in that particular area. The

reviewer should evaluate how the research contributes to the quality of theory development; assess the methods used and review ethical standards.

Leininger's Criteria

Leininger (1990), among others, described criteria for evaluating qualitative research. These were built on the work of Lincoln and Guba (1985) and include the following:

1. *Credibility* – the truth value or believability of the findings, particularly to the informants;
2. *Confirmability* – direct evidence from the informants, including mutual agreement;
3. *Meaning-in-context* – the the specific interpretations fit within broader understandings of the lifeways or experiences;
4. *Recurrent patterning* – the tendency for themes to recur in sequence or regular patterns. This includes the concept of consistency;
5. *Saturation* – this occurs when there is redundancy and no new themes arise as more information is collected; and
6. *Transferability* – consistency or similarity over settings.

Parse's Standards

Parse and colleagues (1985) suggested standards that can be used to evaluate the conceptual, ethical, methodological, and interpretive dimensions of a qualitative study:

1. Substance or soundness of ideas supported by appropriate evidence;
2. Clarity, including logical precision and organization; and
3. Integration, which includes the unified presentation of the study as a whole.

Guidelines for Qualitative Research

The authors of the current paper offer the following seven guidelines for assessing qualitative studies.

The research domain, topic and/or question must be specified, and the appropriate research design selected

The usefulness of any research study must be evaluated within the context of the author's purpose. A clearly stated purpose will help the reader formulate realistic expectations. Qualitative research can serve various purposes, including: generation of theory, conceptual rendering of an area of interest, empirical grounding for quantitative research, and description of a point of view. Thus, it can be used to develop instruments, illustrate meanings, sensitize readers, or conceptualize phenomena. All study procedures and interpretations must be in keeping with the stated purpose.

The research question reflects the underlying assumptions and beliefs of the researcher. For example, it is unlikely that a researcher who believes in acausality, would be interested in causal questions. It is also helpful to know what precipitated the study, and important to know what the research domain of inquiry is in order to determine if a particular qualitative method is appropriate.

Rather than numerical data, qualitative research generates narrative that reflects on the whole rather than the parts. For example, a study based on Parse's theory of human becoming, would include a belief in irreducible wholes and the client's perspective as the only meaningful point of reference. A research question evolving from this perspective might be "What is the lived experience of being away from home?" and the domain of inquiry could be the experience of hospitalization. This could be appropriately studied with a phenomenological approach or Parse's methodology based on her theory. A question inappropriate for qualitative study would be: "What is the relationship between job satisfaction, frequency of sick time used, and blood pressure?" This question leads to a focus on quantification, and particular variables.

It is commonly believed that preliminary studies on a topic must be of a qualitative nature and that quantitative studies are more appropriate once more is known. This misunderstanding does not take into account the different beliefs and assumptions of each methodology. A descriptive quantitative design can be used when little is known about a topic, and a qualitative design may be appropriate when there is a great deal of research within a domain of inquiry, but little on the subjective experiences. The researchers' choice of paradigms should be influenced by their personal beliefs, the nature of the desired result (numbers or meanings), and the depth of understanding and description required from subjects/participants (Smith, 1984).

The research method must be described and rationale given for its use

Many different qualitative research methods have been developed. For example, phenomenological research reflects a tradition of philosophy that emphasizes the human experience and meaning. Scientific and humanistic data are generated by studying the desired information from the perspective of the research participant. Thus, it is important to know if the researcher studied the phenomenon from the perspective of the participant and actively engaged the participants (Brockopp & Hastings-Tolsma, 1989). An example of phenomenological research in nursing is Parse's method (Parse, 1987; Parse, Coyne & Smith, 1985).

Ethnographic research evolved from anthropology. It is a holistic inquiry into the lives of people to understand their ways of living and the meanings they attach to such things as activities, events, knowledge, and artifacts. It

involves the collection and analysis of data about an individual or group under natural conditions. The investigator is immersed in the study process in an effort to fully understand the behaviour and its subsequent impact on society (Brockopp & Hastings-Tolsma, 1989). Spradley (1980) clarifies that ethnography means "learning from people" rather than "studying people" (p.3). Ethno-nursing has been developed by Leininger (1985a; 1985c; 1987) as a nursing methodology evolved from ethnography.

Historical research involves the careful study and analysis of data about past events. The purpose is to gain an understanding of the impact of the past on present and future. The reader needs to know if the researcher conducted the study in the natural setting, whether he/she was intimately involved in the data collection process and what attempts were made to establish validity and reliability of sources. The researcher must relate the study to current or future events (Brockopp & Hastings-Tolsma 1989).

Grounded theory was developed by Glaser and Strauss (1967) as a means of studying and analyzing social data for the purpose of explaining selected phenomena. A theory is ultimately generated through inductive and deductive activity. (Artinian, 1986) stated that the purpose of this type of research is to identify the core variable or process (p.17). Glaser and Strauss (1967) added that it is important that the codes and generated theory fit the data obtained from the study. The theory must work (i.e., have explanatory power) and be relevant and modifiable.

Space limitations prohibit the current authors from giving a description of all qualitative research methods. Additional methods include: philosophical inquiry, life histories, ethnoscience, audiovisual methods, holography, critical and constructionist theory, and symbolic interactionism (Leininger, 1990).

An appropriate review of the literature must be done and referred to when it is relevant to the research

The literature review should be systematic and include the available literature sources on the phenomenon under study. In phenomenologic studies review of the literature may be withheld until after data are collected. However, with other qualitative methods, such as historical research, the literature review may be an important first step (Cobb & Hagemaster, 1987).

The study informants or participants, context, and researcher must be described in relevant detail

The informants or participants, however few, must be described. Adequate sample size is generally determined through saturation and recurrent patterning, whereby the researcher finds that additional participants provide

similar rather than dissimilar information. Therefore, although the required sample size can be estimated before the project begins, it cannot truly be known until data gathering is well underway.

The researcher must say how the study sites were determined and describe the selection of participants and their levels of participation. Opportunistic samples are appropriate and sampling is purposeful, but these must be described in detail (Cobb & Hagemaster, 1987). Particular informants (e.g. expert nurses) can be purposely included for their relevant knowledge or experience. Random selection of subjects for representativeness should not be used for qualitative research. Morse (1986) suggests that the criteria of appropriateness and adequacy be used to evaluate sampling; an appropriate sampling method has a good "fit" with the study purpose (p. 185). The information provided by an adequate sample is of good quality, and complete, and provides sufficient information. Morse considers these factors to be more important than the sample size (p. 185).

The researcher's level of participation – ranging from passive observation to fully active participation – needs to be described. Much of data gathering depends on the researcher skillfully observing, listening, and communicating.

Researchers must maintain a delicate balance between using themselves as research instruments, and ensuring that their views do not bias, lead, or inhibit the participants (Robinson & Thorne, 1988). It is helpful to know what the researcher's credentials and previous experience as a qualitative researcher are when judging the value of a study (Burns, 1989).

Attempts should be made to prevent personal bias from influencing the research process. Toward this end the researcher's preconceptions and perspectives about the phenomenon should be identified prior to gathering data. Another strategy for avoiding bias is to use a consultant, advisor or research team to review the study process (Robinson & Thorne, 1988).

Information gathering and information analysis must be described

Information may come from various sources, including discussions with participants (recorded in field notes, correspondence, audiotapes and/or videotapes), the observations and experiences of the researcher (e.g. experiential learning, process recordings, the use of symbols, ceremonies, and the structure and content of the environment), and historical records (e.g. documents, photographs, and artifacts).

Information gathering and analysis should be described and the researcher should discuss how these are appropriate for the qualitative approach. Generally a specific method, such as Leininger's (1987) four phases of analysis, could be used to code data and identify key concepts, themes, and patterns.

Ethical considerations need to be addressed such as consent, confidentiality and risks and benefits to participants. It is more difficult to obtain true informed consent in qualitative research because the nature of the investigation can change and evolve throughout data gathering and analysis. Ramos (1989) has suggested that researchers use "ongoing consensual decision-making, where emergent difficulties are discussed openly" (p. 61).

Researchers have an ethical responsibility both to the research participants and to the integrity of the research process (Munhall, 1988; Robinson & Thorne, 1988). Specifically, the researcher should avoid influencing study participants, and help them to recognize the difference between the nurse researcher's clinical and research obligations.

The researcher's interpretations and/or conclusions must be appropriate and consistent with the database

According to Leininger (1990), transferability, recurrent patterning, and saturation indicate consistency of study conclusions; credibility, confirmability and meaning-in-context indicate truth value. Although it might not be possible or appropriate to observe all these criteria in one study, Leininger suggests attention should be given to at least one criterion of consistency and one of truth value.

To readers more familiar with quantitative studies, these criteria can be considered as roughly analogous to reliability (consistency) and validity (truth). Writers such as LeCompte and Goetz (1982) have used these quantitative terms to explain similar concepts in qualitative studies. However, Leininger (1990) cautioned that truth values and in-depth meanings will be lost when quantitative criteria are applied to qualitative studies (p. 44).

The process used to discern patterns, themes or relationships from the data, must be described; including how the data were recorded and reviewed. The importance of the identified patterns and the interrelationships should be made clear. Meanings explored must be in the context of the informants' perspectives, and the methods used for this must be discussed. The researcher should indicate whether the findings were confirmed by agreement for classifying, validation from informant group or external consultant, reliability estimates using recurrent patterning of a common theme or other methods. The meaning of the data collected should be discussed and related to the current literature. This includes whether the data found are best highlighted in the context of an existing theory, or whether a new schema needs to be developed (Brockopp & Hastings-Tolsma, 1989).

The importance and relevance of the research for its intended profession should be addressed

This is an important part of qualitative research and should help the reader understand the concepts or theories developed. It should provide insight into important professional queries and the significance of the findings to study participants. The authors should link implications and recommendations to the conceptual formulations and discuss how findings might be used.

Conclusion

These guidelines and the resultant critique of qualitative research can be used to help measure the importance of qualitative research findings. They will help discern whether or not phenomena described, ideas conceptualized or theories discussed are worthy of further consideration and helpful for understanding depth of meaning. A qualitative study should be evaluated within the context of the author's purpose as well as the reader's own interest or purpose (Knafl & Howard 1984).

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Worksheet for the Critical Assessment of Qualitative Research

(J. Roberts and C. Forchuk)

Article: _____

Author: _____

What is the research of inquiry or question? _____

1. Is the research design appropriate for the research topic or question?

☐ Yes ☐ No

Reasons: _____

2a. Was the specific qualitative research method chosen appropriate?

☐ Yes ☐ No

Reasons: _____

2b. Was a literature review done and used appropriately?

☐ Yes ☐ No

Reasons: _____

3. Were the descriptions of informants/participants, context, and researcher all adequate?

☐ Yes ☐ No

Reasons: _____

4. Were information gathering and information analysis both described adequately?

☐ Yes ☐ No

Reasons: _____

5. Were researcher's conclusions appropriate?

☐ Yes ☐ No

Reasons: _____

6. Was the importance and relevance of the research to the intended progression indicated?

☐ Yes ☐ No

Reasons: _____

7. Summary of critique and conclusion

A. Was the research topic discussed?

B. Is there another appropriate approach?

C. What specific purposes were stated?

i.e. discovery, description, conceptualization, understanding, meanings, lived experiences etc.

A. Which qualitative approaches were included?
i.e. ethnography, grounded theory, phenomenology, historical, life histories, ethnoscience, audiovisual, philosophical, critical inquiry, ethical, symbolic interaction

B. Was rationale for approach given?

A. At what point in the research process was the literature review done?

B. Were appropriate reasons given?

A. Was a clear description of informants and context given?

B. Was relevant information about researcher given?

C. Was researcher's perspective declared early?

A. What sources of information were used?

e.g. unstructured/semistructured interview, participant observation, historical documents, field notes, record review, personal written accounts, video or audio tapes

B. What analysis method was used?

e.g. identification of key concepts, themes and patterns.

A. Able to follow process from collection of information to development of themes

B. Were whole meanings, experiences examined in context without attempting to reduce the whole to parts?

C. Were meanings explored in context of informants' perspectives? How?

D. How did the researcher confirm findings?

e.g. a) Agreement for classifying; (i) use of external consultant (ii) consensus by research team; b) Use of validation by research participants; c) Saturation of themes; d) Recurrent patterning of a common theme

E. Did conclusions have:

(i) credibility, (ii) confirmability, (iii) meaning-in-context, (iv) recurrent patterning, (v) saturation, (vi) transferability?

How might the findings be used?

Development and Early Testing of the Role Enactment Questionnaire

Wendy A. Hall

Le questionnaire sur l'établissement des rôles a été élaboré afin de mesurer comment les parents de jeunes enfants vivent l'intensité et l'inégalité de leurs rôles respectifs. Ces deux facteurs ont été décrits comme antécédents aux tensions par rapport au rôle. L'instrument subsume trois échelles de Likert de cinq points qui représentent deux dimensions et quatre rôles. L'élaboration de l'échelle comprenait la validation du contenu et l'essai psychométrique initial avec quatre-vingt-douze parents afin de permettre l'analyse de la fiabilité. La version finale du questionnaire sur l'établissement des rôles comportait 126 points. Les facteurs de pondération alpha de Cronbach étaient de 0,90 pour la dimension «inégalité» et de 0,89 pour la dimension «intensité». La fidélité de stabilité sur la base des réponses données par soixante-dix-huit parents était de 0,73 pour l'inégalité dans le rôle et de 0,80 pour l'intensité du rôle.

The Role Enactment Questionnaire was developed to measure role intensity and role disparity experienced by the parents of young children. These two factors have been described as antecedents to role strain. The instrument subsumes three 5-point Likert scales that represent two dimensions and four roles. Scale development included: content validation and initial psychometric testing with 92 parents to conduct a reliability analysis. The final version of the Role Enactment Questionnaire consisted of 126 items. Cronbach's alphas were 0.90 for the disparity dimension and 0.89 for the intensity dimension. Test-retest reliabilities (r) based on the responses obtained from 78 of the parents were 0.73 and 0.80 for role disparity and role intensity, respectively.

The number of Canadian women engaged in paid employment outside the home is increasing. Specifically, the percentage of Canadian women in the labour force who have children 3 years or younger, increased from 31.7% in 1976 to 61.5% in 1991, while the participation of those with children 3-5 years old rose from 40.9% to 68.2% (Dumas, 1992). Despite these trends, there is a lack of consensus about the psychological and physical costs and benefits to parents who also simultaneously fill the roles of worker and spouse.

Literature Review

Two theories in the literature have reflected differing conceptualizations of the effects of multiple roles. The scarcity theory was developed first, and relates role strain to competing or overwhelming role demands and obligations in the context of energy limitations (Coser, 1974; Goode, 1960; Slater, 1963). According to this theory, role strain occurs when the individual experiences difficulty in fulfilling role obligations (Goode, 1960). The signs include fatigue, depression, tension, anger, hostility, guilt, dissatisfaction, physiological stress, and discomfort (Ward, 1986). The expansion theory focuses atten-

tion on the benefits and gratification of multiple roles, which are viewed as outweighing the strains and resulting in a net gain in well-being (Marks, 1977; Sieber, 1974; Thoits, 1983). Marks (1977) acknowledged that role strain can occur, but argued that it was not inevitable. Although empirical evidence has been more supportive of the expansion theory, recent research has provided evidence in support of the scarcity theory (Campbell & Moen, 1992; Hall, 1975; Hemmelgarn & Laing, 1991; Walker & Best, 1991). Results have provided evidence that both role strain and gratification occur and suggestions have been made for conditions that facilitate one or the other. Thus, role strain has not been conceptualized as an inevitable outcome of multiple role occupancy.

Study results have been inconsistent in part, because researchers have traditionally focused on the number of roles an individual occupies (quantity) and have only recently considered role types and characteristics (quality). Role characteristics must be considered because they vary in role demands and according to gender and individual expectations (Froberg, Gjerdingen, & Preston, 1986). Froberg and colleagues (1986) have suggested that role strain may be more related to the type and quality than to the number of roles.

Several qualitative studies have indicated that there is a relationship between the type and quality of roles and role demands (Hall, 1987, 1991; Maclean, 1991; Meleis, Norbeck, Laffrey, Solomon, & Miller, 1989). Findings have also indicated that control for women with young children (Hall, 1987) and attitudes about acceptable role characteristics for women and men with young children (Hall, 1987, 1991) are important. Little attention has been given, in quantitative research, to the interaction between role demands and the individual's control over them (Piechowski, 1992). Other investigators have indicated that differences in parent's attitudes (Hoffman, 1989; Scarr, Phillips, & McCartney, 1989) and the degree of control they perceive (Froberg et al., 1986), should be included in instrumentation. The next logical step in developing dual-earner family research is to define the composition and structure of demands and control (Piechowski, 1992).

Purpose

A number of authors have described antecedents or sources of role strain, such as role conflict, role accumulation, role intensity, role ambiguity, role incompetence, and role disparity (Burr, 1972; Sarbin & Allen, 1968; Ward, 1986). The literature has not identified tools that address antecedents of role strain in relation to the work/family interface, family role characteristics, and variables such as responsibility, control, and acceptability of role characteristics. Specific instruments must be developed for both genders so that possible sources of role strain can be understood in the family context. Thus, the purpose of the present study was to develop a reliable and valid instrument to

measure role intensity and role disparity in study subjects as paid workers, spouses, parents, and individuals. These were the four major roles identified by Hall's (1987, 1991) studies of dual-earner parents.

Method

First, a conceptual framework was designed to serve as a basis for instrument development (Anastasi, 1988; Nunnally, 1978). Using findings from two qualitative studies by Hall (1987, 1991), other descriptive studies (Bird, 1979; Hood, 1983; Mackey, 1985; Rapoport & Rapoport, 1971; Rapoport & Rapoport, 1976; Russell, 1982; Shaevitz, 1984; Smith & Reid, 1986) and various sources in the literature (Burr, Leigh, Day, & Constantine, 1979; Sarbin & Allen, 1968; Ward, 1986), two dimensions of role enactment were identified and described in relation to the four specific roles of paid worker, spouse, parent, and individual:

Role intensity. Role intensity was defined as the amount of time (preemptiveness) and effort (organismic involvement) devoted to specific role components (Burr et al., 1979; Sarbin & Allen, 1968). This dimension consisted of personal perceptions of the amount of time, effort, and responsibility that were associated with the four roles. Women and men described feeling overwhelmed by the planning, thinking about, and execution of activities that accounted for every moment of their days (Hall, 1987; Hall 1991).

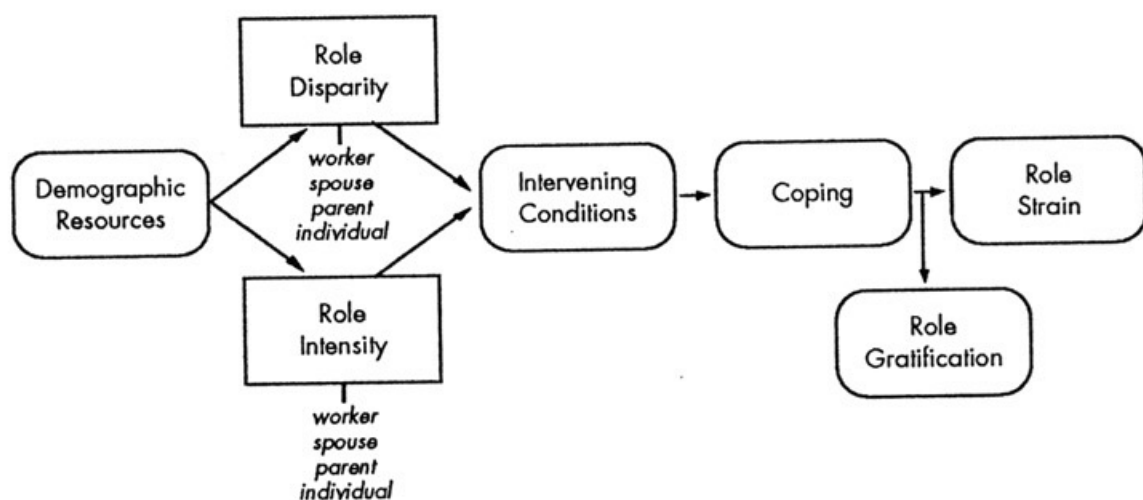
Role disparity. Role disparity was defined as discrepancy between expectations, existing attitudes, and actual behaviours (Burr et al., 1979; Sarbin & Allen, 1968). It captured the individuals' perceptions of their abilities to control their role intensities as paid worker, individual, and spouse and their attitudes about the level of intensity they experienced in the four roles of paid worker, individual, parent and spouse. For example, men talked about their expectations in relation to nurturing their children and how their attitudes changed as they were confronted with reality. Attitudes could make carrying out their roles more difficult if activities became uncontrollable or unacceptable (Hall, 1991) (Figure 1).

Development of the Item Pool

The item pool that was developed consisted of behaviours or components associated with each role. Parents' descriptions that had been generated from qualitative data (Hall, 1987; Hall, 1991) were used to increase the validity of the items. These descriptions were augmented by findings from other studies of dual-earner couples (Bird, 1979; Hood, 1983; Mackey, 1985; Rapoport & Rapoport, 1971; Rapoport & Rapoport, 1976; Russell, 1982; Shaevitz, 1984; Smith & Reid, 1986). A total of 138 items were generated in the first pool for use with a 5-point Likert scale. Because the questionnaire asked participants

Figure 1

**A theoretical framework for antecedents of role strain:
Role disparity and role intensity**



to indicate the level of role intensity and role disparity they experienced, negatively worded items could not be included to prevent response bias. In addition, low values on the Likert scale in relation to control and acceptability had to be transposed during data entry into high levels of role disparity.

Objectives that represented each domain were developed from the author's qualitative work and other descriptive findings. An exhaustive set of items was designed to measure each objective. All objectives were not measured by the same number of items. Parents with preschool-aged children emphasized parenting and spousal roles to a greater extent than work and individual roles. In addition, work was viewed as important largely in the context of the extent to which it intruded on home life.

Validity

Next, the author requested four experts in family nursing or work and family research to rate each item out of 100, by subscale, for inclusion or removal. The experts rated the items in relation to the objectives and the definitions of terms. They also assessed whether the items satisfactorily represented the behaviours in the specified domains and identified any areas that had been neglected or omitted.

All of the experts agreed that relationship and household management should be included in the spousal role. Inclusion of those components fitted with Nye's (1974) view that a therapeutic role is an aspect of the spousal role and Mederer's (1993) insistence that housework includes caring for home, household members, and other transactional matters.

The responses were reviewed and 12 items that had been rated below 70 by two or more of the experts were removed. The demographic data collection page was revised to include a consideration of blended families, and the availability of flex-time of paid or unpaid support persons. At this point the instrument consisted of 126 items representing activities, responsibilities undertaken by parents in relation to their four roles, attitudes toward those activities/responsibilities, and the amount of control associated with some of the activities. Three items were developed for each activity or role component. In the first item participants were asked to quantify the amount they performed a particular role component, in the second, how acceptable their level of performance was to them; and in the third, how much they controlled their performance or how much responsibility they took for planning or performing the role component. Likert response formats ranged from none (1) to a great deal (5). For example:

	None		A great deal		
The amount you dress your children	1	2	3	4	5
a) How acceptable is this to you?	1	2	3	4	5
b) How much responsibility do you take for this?	1	2	3	4	5

Pilot Testing

Pilot testing of the instrument was carried out by 10 dual-earner couples with at least one child less than 6 years of age. These volunteers were asked to answer all the questions, but to indicate if they did not understand any items, or felt they were irrelevant or unacceptable. They were also asked to comment on the overall format and the clarity of the instructions and to indicate their total time for completion of the questionnaire. After pilot testing, revisions were made to correct any items considered ambiguous, irrelevant or unacceptable. The overall format of the questionnaire was revised and the instructions were revised to increase clarity. The 126-item questionnaire was printed in final format for testing on a larger sample.

A convenience sample of dual-earner couples was used for evaluating the final instrument. All were from a large urban area, and were recruited through advertisements and flyers at day care-centres. Questionnaires were mailed to respondents. Completion of the questionnaire was considered to indicate consent to participate in the study. All questionnaires were coded and only the researcher had access to names and addresses of the subjects.

Results

Of the 55 couples who were recruited, 46 returned the first questionnaire and only 39 of these returned the second one so that test-retest reliability could be calculated. The second questionnaire was mailed out 2 weeks after

the return of the first one. However, since there was often a delay of about one month before the second questionnaire was returned, it may have been completed from 3 to 6 weeks after the first one.

Study participants had the following demographic characteristics: they ranged in age from 25 to 52 years old (mean 33.2 years); they had from 1 to 3 children (mean 1.43) and their ages ranged from 2 months to 7 years (mean 23.28 months); the parents' hours of work per week ranged from 4 to 90 (mean 35.3); their education ranged from some high school to completed doctoral studies; 58 persons indicated that flex-time was not available, 7 had some form of flex-time, and 27 indicated flex-time was available; individual incomes ranged from \$7,000 to over \$50,000 per year (mean \$36,609 in Canadian funds). Eighty-three percent of couples indicated that they received some assistance from nannies, cleaning personnel, baby-sitters and/or gardeners.

Reliability Analysis

Data from questionnaires were entered on a computer, cleaned by hand, and analyzed using the SPSS-X program. Internal consistency using Cronbach's alpha was calculated on the dimensions of the instrument. The internal consistency was high, with an alpha coefficient of 0.90 on the disparity dimension and 0.89 on the intensity dimension. Alpha coefficients ranged from 0.39 to 0.93 for each of the roles on each dimension. Some of the subscales with fewer items, i.e., role as paid worker (7 items) and role as individual (6 items), demonstrated alphas that were somewhat lower. Because alpha is dependent on the total test variance and the length of the test, it is not unusual to have lower alphas with a short test and a small sample size (Waltz, Strickland & Lenz, 1991). Test-retest reliability was calculated. The Pearson r was 0.73 for the disparity dimension, 0.80 for the intensity dimension, and ranged from 0.62 to 0.87 for each of the roles on each dimension.

Discussion

As previously stated, one of the methodological limitations of dual-earner family research has been the absence of a reliable and valid questionnaire that addresses antecedents of role strain in relation to work-family interface, family role characteristics, and variables such as responsibility, control, and acceptability. For example, although questionnaires developed by Baruch and Barnett (1986) and Marshall and Barnett (1993) measure role quality in family and work roles, they focus on rewards and concerns or role conflict. In addition, although reliability has been reported, validity testing has not.

The Role Enactment Questionnaire was developed primarily from previously reported qualitative findings (Hall, 1987, 1991). Items were generated to fit categories that had been identified in the life experiences of Canadian dual-

earner families. This questionnaire provides an example of linking the contributions of qualitative and quantitative methods. Content validity was supported by our findings. It is possible to produce a relevant, acceptable questionnaire with high levels of statistical reliability and validity using qualitative findings.

The Role Enactment Questionnaire was tested on a small sample, but the reliability estimates suggest that it is useful for making both group and individual assessments. With further testing, the questionnaire could serve as a reliable and valid instrument for identifying areas of difficulty in families in specific areas of role enactment.

The construct validity of the Role Enactment Questionnaire needs to be examined and, this could be achieved through a number of mechanisms. Confirmatory principal factor analysis using the constructs of role intensity and disparity would be important to support the two dimensions of the questionnaire. Hypothesis testing could be proposed which would specify differences among groups using demographic predictors. Group comparisons could be made using one-way ANOVAs. Criterion-related discriminant validity could also be assessed by using the Work-Family Strains scale and the Work-Parenting Strains Scale to measure role conflict (Marshall & Barnett, 1993). A low positive correlation would be expected between the Role Enactment Questionnaire and the two scales. Finally, further testing of the questionnaire must occur with a larger sample size using Ward's (1986) conceptualization of role strain and role gratification to determine the instrument's utility for measuring antecedents of role strain.

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Étude comparative de deux méthodes de sortie du prématuré : méthode kangourou versus méthode traditionnelle

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This study compared two methods of holding preterm infants: 1) the kangaroo, or skin-to-skin method (K) and 2) the traditional method, or normal handling (T). Skin temperature, heart rate, respiratory rate and oxygen saturation were monitored during both the kangaroo and the traditional handling methods. After testing with the two methods, the mothers indicated their satisfaction and preference. Sixty-one pairs of mothers and babies were tested once with the K method and once with the T method. The first method tested was determined at random: 50% began with K and 50% with T. Skin temperature, heart rate and respiratory rate were similar with both K and T methods. Whereas oxygen saturation was significantly lower (92.8% vs 90.5%, $p < 0.0001$) under the T method, time of testing was longer (29.5 min vs 25.3 min, $p = 0.02$) for the K method than for T method. In summary, the findings suggested that mothers preferred the K method because the cold stress factor was avoided, oxygenation was better maintained, and mothers felt closer to their infants.

Il existe deux méthodes favorisant la sortie du prématuré de l'incubateur et permettant aux parents de prendre dans leurs bras leur bébé prématuré durant une courte période de temps. Cette recherche avait pour but de comparer la méthode kangourou (K) à la méthode traditionnelle (T) en termes de variation de quatre paramètres physiologiques (température cutanée, rythme cardiaque, rythme respiratoire et saturation en oxygène) chez le prématuré, et de satisfaction et préférence maternelles. L'échantillon de convenance, composé de 61 dyades mère-prématuré, a été recruté aux soins intermédiaires du service de néonatalogie d'un centre hospitalier universitaire. Les résultats démontrent que la méthode K entraîne une variation minime des paramètres physiologiques du prématuré. La durée de sortie du prématuré est plus longue avec la méthode K qu'avec la méthode T. Les mères ont exprimé un degré élevé de satisfaction pour les deux méthodes mais la méthode K a été préférée par l'ensemble des mères. Les infirmières devraient implanter cette méthode de sortie des prématurés si elles désirent faciliter l'adaptation des parent à leur situation.

Dès la naissance, le prématuré est placé dans un incubateur afin de maintenir une température cutanée supérieure à 36°C (Auvenshine et Enriquez, 1990; Ladewig, London et Olds, 1990). Cette contrainte restreint le désir des parents d'établir un lien d'intimité avec leur bébé. Parallèlement, les parents souhaitent de pouvoir tenir leur bébé le plus tôt possible. Les infirmières cherchent une méthode qui favoriserait la sortie du prématuré de l'incubateur tout en évitant de le mettre dans une situation de stress froid qui provoquerait une

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baisse de température pouvant nuire à sa santé. Il s'agit pour les infirmières de répondre à la demande sans cesse croissante des parents qui veulent prendre leur bébé dans leurs bras et de remettre en question la pratique habituelle qui veut que le prématuré soit maintenu dans l'incubateur jusqu'à ce qu'il atteigne un poids de 1800 g (Auvenshine et Enriquez, 1990; NAACOG, 1990).

Il existe deux méthodes favorisant la sortie du prématuré de l'incubateur : la méthode kangourou (contact peau à peau) et la méthode traditionnelle. La présente étude a pour but de comparer ces deux méthodes en termes de variation de quatre paramètres physiologiques du prématuré (température cutanée, fréquence cardiaque, fréquence respiratoire, saturation en oxygène), de satisfaction maternelle et de méthode préférée par les mères.

Recension des écrits

La méthode traditionnelle de sortie du prématuré consiste à l'emmailoter dans une couverture de flanelle et à le déposer dans le creux du bras d'un parent (Whitelaw, Heisterkamp, Sleath, Acolet et Richards, 1988). Le prématuré est vêtu d'une couche et d'un bonnet. Le parent maintient la tête du prématuré à un angle d'environ 60° afin de favoriser une meilleure expansion pulmonaire (Acolet, Sleath et Whitelaw, 1989; Thorenson, Cowan et Whitelaw, 1988). Les écrits consultés ont permis de constater que bien que la méthode traditionnelle soit largement utilisée dans les services de soins, elle n'a jamais fait l'objet d'une évaluation scientifique.

La méthode du contact peau à peau entre le prématuré et le parent a été décrite pour la première fois en 1979, à Bogota, par les pédiatres Rey et Martinez (Anderson, 1991). Cette méthode est également appelée kangourou par analogie avec la particularité des premiers mois de vie de la progéniture des marsupiaux. La méthode kangourou permet aux parents de prendre leur prématuré tout en lui assurant la chaleur dont il a besoin. Durant le contact peau à peau, le prématuré porte une couche et un bonnet. La mère ou le père dénude temporairement sa poitrine pour recevoir le bébé. Le prématuré est déposé en position verticale sur la poitrine du parent (Anderson, 1989; Whitelaw, 1986). Une couverture de flanelle recouvre le dos du prématuré, et le parent referme ses vêtements sur l'enfant. Le parent est assis sur une chaise berçante et incline le siège de façon à maintenir la tête de l'enfant à un angle d'environ 60°, favorisant ainsi une meilleure expansion pulmonaire (Acolet et al., 1989; Thorenson et al., 1988).

Les publications qui traitent de l'application de la méthode kangourou indiquent des résultats positifs (Anderson, 1989; Leeuw, 1987; Mondlane, de Graca et Ebrahim, 1989; Whitelaw, 1986; Whitelaw et al., 1988). La température cutanée du prématuré demeure stable, et celui-ci poursuit son gain

pondéral de façon satisfaisante. Lorsqu'ils comparent cette méthode à la méthode traditionnelle, les auteurs rapportent un niveau de satisfaction maternelle plus élevé. Les mères ont une relation plus intime avec leur bébé. Elles apprennent à mieux le connaître et à interagir avec lui quand il est en état de vigilance.

Trois études ont évalué la variation de paramètres physiologiques chez le prématuré lorsqu'on le sort selon la méthode kangourou, le point de comparaison étant l'état de ces paramètres dans l'incubateur. Acolet et al. (1989) notent que la température cutanée demeure stable tandis que Bosque, Brady, Affonso et Wahlberg (1988) observent une diminution significative ($p < 0,05$) de $0,4^{\circ}\text{C}$ lorsque le sujet expérimente la méthode kangourou. Pour ce qui est de la fréquence cardiaque, les équipes d'Acolet et al. (1989) et de Ludington (1990) observent une augmentation significative (6,5 et 8,4 battements/min), tandis que Bosque et al. (1988) ne notent aucune modification. Seuls Bosque et al. (1988) publient des résultats concernant la fréquence respiratoire, qui ne sont pas statistiquement significatifs. Enfin, quant à la saturation en oxygène, Acolet et al. (1989) et Bosque et al. (1988) ne constatent aucune modification lorsque le prématuré expérimente la méthode kangourou.

Trois équipes de chercheurs ont comparé la méthode kangourou à la méthode traditionnelle afin d'évaluer les réactions psychologiques de la mère et l'établissement de la relation mère-enfant. Whitelaw et al. (1988) démontrent que la méthode kangourou a des effets positifs sur la durée de l'allaitement et la diminution des pleurs de l'enfant à l'âge de six mois. Pour leur part, Affonso, Wahlbert et Persson (1989) notent que la méthode kangourou réduit le niveau d'anxiété des mères et augmente leur niveau de confiance. Par ailleurs, Schmidt et Wittreich (1986, voir Affonso et al., 1989) constatent une augmentation de la durée des heures de visite et de la fréquence des contacts physiques entre la mère et son bébé lorsqu'on utilise la méthode kangourou.

Ces recherches démontrent que la méthode kangourou est sécuritaire et qu'elle présente de nombreux avantages tant pour le prématuré que pour sa mère. De plus, les mères expriment un niveau plus élevé de satisfaction avec la méthode kangourou. À la lumière de ces faits et en l'absence d'étude comparative des variations des paramètres physiologiques du prématuré entre la méthode kangourou et la méthode traditionnelle, nous avons formulé six hypothèses de recherche.

Hypothèses

Des ces hypothèses, quatre concernent les paramètres physiologiques du prématuré et deux se rapportent au bien-être de la mère. Les prématurés soumis à la méthode kangourou présentent, à chacun des temps de mesure,

moins de variation : H₁) de leur température cutanée, H₂) de leur fréquence cardiaque, H₃) de leur fréquence respiratoire, H₄) de leur saturation en oxygène, que lorsque soumis à la méthode traditionnelle. H₅) Les mères sont plus satisfaites lorsqu'elles prennent leur bébé selon la méthode kangourou que lorsqu'elles le prennent selon la méthode traditionnelle. H₆) Les mères préfèrent la méthode kangourou à la méthode traditionnelle.

Méthode

Devis de recherche : Il s'agissait d'une étude quasi expérimentale avec un protocole contrebalancé à séquences temporelles. Il n'y avait pas de groupe témoin indépendant, la même dyade mère-enfant était soumise aux deux méthodes étudiées. Un numéro était attribué de façon aléatoire au sujet «mère». La dyade mère-enfant ayant un numéro impair débutait l'expérience par la méthode kangourou, tandis que la dyade ayant un numéro pair expérimentait en premier lieu la méthode traditionnelle.

Les séquences temporelles correspondaient à cinq temps de mesure choisis pour l'expérimentation de chacune des deux méthodes : le temps un (T₁) correspondait à 5 minutes avant la sortie de l'incubateur, les temps deux (T₂), trois (T₃) et quatre (T₄) étaient respectivement les 5, 15 et 30 minutes de l'expérimentation de la méthode étudiée, et le temps cinq (T₅), se situait à 5 minutes après le retour dans l'incubateur.

Sujets : L'échantillon de convenance était composé de mères ayant un prématuré hospitalisé aux soins intermédiaires de néonatalogie d'un centre hospitalier tertiaire. La participation des sujets «mères» était volontaire et elles devaient signer un formulaire de consentement. Les critères d'inclusion du prématuré étaient : être âgé d'une semaine ou plus, peser entre 1000 et 1800 g, avoir un maximum d'une pause respiratoire ou d'une bradycardie au cours des cinq derniers jours, et présenter un début de gain pondéral. La mère devait n'avoir jamais pris son bébé dans ses bras depuis la naissance afin d'éviter d'introduire un biais qui compromettrait la validité interne de l'étude. La dyade mère-enfant était retirée de l'étude si la mère expérimentait une seule des deux méthodes ou si un médecin recommandait l'arrêt de l'expérimentation en raison de la détérioration de l'état de santé du prématuré.

L'échantillon initial comprenait 71 dyades mère-enfant. De ce nombre, 61 dyades ont complété toutes les étapes de la recherche. L'âge moyen des mères était de 26,64 ans (18 à 39 ans). Quarante et une mères étaient primipares et 42 mères n'allaitaient pas leur prématuré. Trente prématurés étaient de sexe féminin et 31 de sexe masculin. Le poids moyen à la naissance était de 1225 g (685 à 1835 g). L'âge gestationnel moyen était de 30 semaines (24 à

35 sem). Le poids moyen des prématurés était de 1407 g (1000 à 1785 g) lors de l'expérimentation de la méthode kangourou et de 1411 g (1050 à 1790 g) lors de l'expérimentation de la méthode traditionnelle. Le nombre de jours de vie moyen des prématurés lors de l'expérimentation des deux méthodes était de 28,6 jours (7 à 61 jours).

Instruments de mesure : Trois appareils et deux questionnaires ont servi à la collecte des données. Les appareils sont l'incubateur, le moniteur cardio-respiratoire et le sphygmo-oxymètre. Les alarmes des appareils ont été réglées à 110 et 180 battements/min pour la fréquence cardiaque, à 30 et 80 respirations/min pour la fréquence respiratoire et à 85 % pour la saturation en oxygène.

La collecte des données pertinentes à l'évaluation de la satisfaction et de la préférence maternelles a été effectuée à l'aide de deux instruments. Le premier, le *Questionnaire sur la satisfaction maternelle après l'expérimentation de chaque méthode*, a été élaboré selon les éléments définis par Affonso et al. (1989) lors de leur recherche exploratoire des réactions maternelles à la méthode kangourou. Le questionnaire comprend 15 énoncés présentés en deux sections. Les huit premiers énoncés décrivent les attributs et comportements maternels durant l'expérimentation d'une méthode. Les sept autres énoncés permettent à la mère de définir ses sentiments après la période d'expérimentation. Pour chaque énoncé, il y a cinq choix de réponses selon une échelle de type Likert, allant de 1 « beaucoup » à 5 « je ne sais pas ». L'ensemble des énoncés donne accès à des résultats théoriques variant entre 15 et 75, avec une moyenne se situant à 45. Une question ouverte invite les mères à commenter ou à formuler de nouveaux énoncés en rapport avec l'expérience vécue. Le deuxième questionnaire, *La méthode préférée par la mère*, comprend deux questions. Dans la première, la mère doit indiquer la méthode préférée. Dans la deuxième, elle justifie sa préférence en choisissant parmi dix énoncés ceux qui décrivent le mieux son choix.

Validité de contenu et pré-test

Les deux questionnaires ont été soumis à un groupe de 10 experts en périnatalogie et en recherche afin de déterminer la validité de leur contenu. Les experts devaient se prononcer sur la pertinence, la représentativité et la clarté de chacun des énoncés. Le libellé de certains énoncés a été modifié à la suite de cette consultation.

Un pré-test a été effectué auprès de 12 mères provenant du milieu où s'effectuerait la recherche et répondant aux critères de sélection. Les commentaires des mères ont permis de clarifier quelques énoncés. Aucune autre évaluation des propriétés psychométriques des instruments n'a eu lieu.

Collecte des données : Un délai d'une heure après l'alimentation orale du prématuré était prévu avant de procéder à l'expérimentation d'une des deux méthodes. A l'heure choisie par la mère, l'infirmière préparait le prématuré. Le bonnet et la couverture de flanelle étaient placés dans l'incubateur au moins 15 minutes avant l'expérimentation. L'infirmière supervisait toute la durée de l'expérience et notait les données des paramètres aux cinq temps prédéterminés. Selon la disponibilité de la mère, l'expérimentation de la deuxième méthode était planifiée au plus tôt le lendemain et au plus tard une semaine après la première méthode.

Durant l'expérimentation, des mesures ont été prises pour minimiser les risques. Les limites standardisées pour la fréquence cardiaque, la fréquence respiratoire et la saturation en oxygène étaient celles indiquées par les alarmes des appareils. Si, au cours des cinq premières minutes d'expérimentation d'une méthode, le prématuré présentait une valeur limite dans l'un de ces paramètres physiologiques, il était immédiatement remis dans l'incubateur. Si une modification se produisait après les cinq premières minutes, l'infirmière évaluait la situation avant d'arrêter ou de poursuivre l'expérimentation.

Analyse statistique : Des analyses descriptives ont été réalisées pour chaque paramètre physiologique et pour chaque énoncé des deux questionnaires. Des analyses de variance (ANOVA) à mesures répétées sur deux facteurs (méthode x moment) suivies d'analyses de contrastes (comparaison 1x1) de Tukey ont permis de comparer les données colligées des quatre paramètres physiologiques. Des analyses de variance (ANOVA) à un facteur répété ont été effectuées pour comparer les niveaux et les éléments de satisfaction maternelle. Finalement, des analyses de comparaison entre les deux groupes (chi carré) ont été faites afin de connaître les éléments justifiant la préférence maternelle pour une méthode en particulier. Le test de la qualité d'ajustement a permis de déterminer la méthode préférée par les mères.

Résultats

Paramètres physiologiques

Le tableau 1 présente les moyennes et les écarts types obtenus pour les quatre paramètres physiologiques aux cinq temps de mesure pour les deux méthodes. Le paramètre de la température cutanée (ToC) a changé dans le temps ($F[3,165] = 113,76$, $p < 0,0001$) pour les deux méthodes ($F[3,165] = 1,96$, $p = 0,122$). Quelle que soit la méthode, la $T^{\circ}C$ de l'ensemble des sujets s'élève de façon progressive du T_1 au T_4 pour diminuer légèrement au T_5 . Il n'y a pas de différence statistiquement significative entre les deux méthodes $F[1,55] = 0,66$, $p = 0,420$. Ainsi, on observe une variation comparable de la ToC chez le prématuré, qu'il soit soumis à une méthode ou à l'autre. L'hypothèse 1 est donc infirmée.

Tableau 1

Moyennes et écarts types de paramètres physiologiques
aux cinq temps de mesure, selon les deux méthodes

Paramètres physio.	Temps de mesure	Kangourou		Traditionnelle	
		x	(s±)	x	(s±)
T °C	T ₁	36,6	(0,3)	36,6	(0,3)
	T ₂	36,9	(0,3)	37,0	(0,4)
	T ₃	37,1	(0,2)	37,2	(0,4)
	T ₄	37,3	(0,3)	37,3	(0,4)
	T ₅	36,9	(0,3)	36,8	(0,4)
FC	T ₁	151,1	(16,7)	151,0	(15,8)
	T ₂	150,0	(15,2)	146,9	(13,4)
	T ₃	147,3	(13,2)	144,4	(15,6)
	T ₄	148,5	(19,6)	144,9	(17,7)
	T ₅	147,4	(13,6)	148,6	(13,9)
FR	T ₁	50,5	(14,1)	48,3	(12,7)
	T ₂	50,1	(13,7)	54,4	(12,5)
	T ₃	46,5	(13,8)	49,7	(10,4)
	T ₄	44,4	(14,0)	48,1	(17,2)
	T ₅	45,1	(12,5)	47,4	(14,2)
Sat. O ₂	T ₁	94,8	(2,8)	95,1	(2,9)
	T ₂	94,7	(2,9)	92,8	(4,6)
	T ₃	93,5	(3,0)	91,5	(3,9)
	T ₄	92,8	(3,3)	90,5	(5,3)
	T ₅	93,8	(2,4)	93,9	(3,2)

La fréquence cardiaque (FC) de l'ensemble des sujets a diminué entre la première mesure et la troisième mesure pour les deux méthodes. La moyenne des valeurs mesurées au T₁ est significativement plus élevée qu'au T₃ ($F[3,168] = 3,74$, $p = 0,012$). La FC a diminué de 3 battements/min lors de l'expérimentation de la méthode kangourou, tandis que la diminution était de 7 battements/min pour l'autre méthode. Toutefois, cela ne cause pas d'interaction ($F[3,168] = 2,14$, $p = 0,098$), et il n'y a pas de différence statistiquement significative entre les deux méthodes ($F[1,56] = 0,29$, $p = 0,592$); ainsi, l'hypothèse 2 est infirmée. Cependant, les infirmières ont noté une seule bradycardie chez un prématuré durant la méthode kangourou comparative-ment à quatre lors de l'expérimentation de la méthode traditionnelle.

La fréquence respiratoire (FR) des sujets varie différemment à l'intérieur de chaque méthode. Pour la méthode kangourou, la comparaison des moyennes obtenues entre le T₁ et les autres temps indique une diminution de la FR. Cette baisse est statistiquement significative entre les valeurs mesurés au

T₁ et au T₃ ($F[3,168] = 6,58$, $p < 0,0001$). Avec la méthode traditionnelle, les moyennes de la FR au T₂ et au T₃ ont augmenté et celles au T₄ et au T₅ ont diminué comparativement à la moyenne observée au T₁. Il n'existe pas de différence statistiquement significative entre les deux méthodes ($F[1,56] = 1,15$, $p = 0,288$); l'hypothèse 3 est infirmée. Les infirmières ont toutefois noté quatre pauses respiratoires chez les prématurés durant l'expérimentation de la méthode kangourou et 14 pauses respiratoires lorsqu'on les sortait selon la méthode traditionnelle.

La saturation en oxygène (Sat. O₂) varie différemment entre les deux méthodes et entre les temps de mesure (méthode x moment; $F[3,168] = 9,21$, $p < 0,0001$). Pour la méthode kangourou, il y a une diminution de 0,1 % au T₂, de 1,3 % au T₃ et de 2 % au T₄. Au T₅, les résultats indiquent une diminution de 1 % par rapport au T₁. Pour la méthode traditionnelle, il y a une diminution de 2,3 % au T₂, de 3,6 % au T₃ et de 4,6 % au T₄. Au T₅, les résultats indiquent une diminution de 1,2 % par rapport au T₁. Une différence statistiquement significative est observée entre les deux méthodes à deux temps de mesure, soit T₂ ($F[1,56] = 6,82$, $p = 0,012$) et T₃ ($F[1,56] = 20,46$, $p < 0,0001$). Pour ces deux temps, le niveau de Sat. O₂ demeure plus élevé chez les sujets durant l'expérimentation de la méthode kangourou que lorsqu'ils sont soumis à la méthode traditionnelle. Ainsi, l'hypothèse 4 est confirmée.

Durée de l'expérimentation

Le temps maximal de l'expérimentation pour les deux méthodes était de 30 minutes. Lors de l'expérimentation de la méthode kangourou, trois sujets (4,8 %) ont été retournés dans l'incubateur avant le délai de 30 minutes. Lors de l'expérimentation de la méthode traditionnelle, 19 sujets (31,2 %) ont réintégré l'incubateur dont 7 au cours des 10 premières minutes (voir le tableau 2). La durée moyenne de l'expérimentation était de 29,5 minutes pour la méthode kangourou et de 25,3 minutes pour la méthode traditionnelle. La différence de moyennes s'est révélée statistiquement significative ($t[56] = 2,32$, $p = 0,024$), démontrant une durée d'expérimentation plus longue pour la méthode kangourou que pour la méthode traditionnelle.

Des analyses statistiques secondaires quant aux variations des paramètres physiologiques ont été effectuées pour la méthode traditionnelle étant donné le nombre important de sujets qui sont retournés dans l'incubateur avant la fin des 30 minutes d'expérimentation. La durée de l'expérimentation a été dichotomisée : 1) le temps maximal (30 minutes) et 2) le retour précoce en incubateur (< 20 minutes). Les résultats indiquent une différence statistique significative entre la durée de l'expérimentation et deux paramètres : Sat. O₂ et FC. La Sat. O₂ chez le prématuré retournant précocement en incubateur était moindre que chez le prématuré ayant complété l'expérimentation

Tableau 2

Distribution des sujets "bébés" en fonction de la durée de l'expérimentation des deux méthodes

Temps (minutes)	Kangourou		Traditionnelle	
	n	%	n	%
30	58	95,1	42	68,9
25			5	6,3
23	1	1,6		
22			1	1,6
20	1	1,6		
19			1	1,6
18			3	4,9
17	1	1,6		
13			1	1,6
12			1	1,6
10			1	1,6
7			2	3,3
5			4	6,6

($F[2,54] = 10,48$, $p < 0,0001$). De même, la FC du prématuré qui n'ayant pas complété l'expérimentation était significativement moins élevée ($F[2,54] = 3,11$, $p < 0,053$) que celle du prématuré qui restait sorti 30 minutes.

Satisfaction maternelle

Quelle que soit la méthode expérimentée, les mères ont exprimé un degré élevé de satisfaction. Les résultats pour chacun des 15 énoncés du questionnaire sont concentrés au choix "beaucoup". Après l'expérimentation de la méthode kangourou, les mères ont choisi "beaucoup" pour 13 énoncés et après la méthode traditionnelle, pour 12 énoncés. De plus, cinq énoncés ont obtenu une cote de satisfaction maximale auprès de plus de 90 % des mères après l'expérimentation des deux méthodes. Le niveau de satisfaction était généralement similaire, sauf pour trois énoncés. Ainsi, l'énoncé "j'ai aimé le contact de la peau du bébé" a obtenu un résultat significativement plus élevé avec la méthode kangourou qu'avec la méthode traditionnelle ($F[1,48] = 5,21$, $p = 0,027$). Les énoncés "j'ai aimé parler ou chuchoter à mon bébé" ($F[1,60] = 6,26$, $p = 0,015$) et "j'ai regardé mon bébé dans les yeux et j'ai fixé son visage" ($F[1,58] = 19,29$, $p < 0,0001$) ont obtenu des cotes de satisfaction significativement plus grande avec la méthode traditionnelle qu'avec la méthode kangourou. Ces résultats viennent infirmer la cinquième hypothèse.

Méthode préférée

Quant à la préférence des mères pour une méthode de sortie du prématuré, la méthode kangourou est préférée à 73,8 %; ce résultat, statistiquement significatif ($X^2(1) = 13,79$, $p < 0,0001$), vient confirmer l'hypothèse 6. Dans une large proportion, les mères ont indiqué qu'elles préféreraient cette méthode parce qu'elles sentaient leur bébé tout près d'elles. Elles avaient l'impression de pouvoir plus aisément le toucher. Contrairement à la méthode traditionnelle, où le bébé est emmaillotté, la méthode kangourou permet à la mère d'être en contact direct avec la peau du bébé. Les mères ont aussi affirmé qu'elles se sentaient comblées par l'expérience, à l'aise et satisfaites.

Discussion

L'hypothèse selon laquelle les prématurés soumis à la méthode kangourou présentent moins de variations de leur saturation en oxygène que ceux soumis à la méthode traditionnelle a été confirmée. Il en est de même de l'hypothèse relative à la préférence des mères. Les résultats obtenus ne permettent pas de soutenir les quatre autres hypothèses. Les résultats de l'étude montrent que la méthode kangourou entraîne une variation minime des paramètres physiologiques du prématuré. Ce dernier ne souffre pas d'hypothermie, et sa production de chaleur demeure similaire à celle requise dans l'incubateur. De plus, la durée de sortie du prématuré est plus longue avec la méthode kangourou qu'avec la méthode traditionnelle.

La méthode traditionnelle de sortie du prématuré est documentée ici pour la première fois. Les résultats de la présente étude sont difficilement comparables à ceux des autres études publiées dans ce domaine puisqu'elle est la seule à comparer des variations de paramètres physiologiques chez le prématuré entre deux méthodes de sortie de l'incubateur et ce, à plusieurs temps de mesure. Les résultats indiquent une baisse des niveaux de saturation en oxygène, surtout durant l'expérimentation de la méthode traditionnelle. Cela peut amener à penser que le système nerveux sympathique s'active pour aider à maintenir la température chez le prématuré. En effet, lorsque la régulation de la température cutanée du prématuré est modifiée, le système nerveux sympathique intervient au niveau de la noradrénaline et entraîne une baisse de la saturation en oxygène (Ladewig et al, 1990).

La variation de la saturation en oxygène pour la méthode traditionnelle s'apparente à celle de l'étude de Malin et Baumgart (1987), qui ont observé une augmentation significative de la consommation d'oxygène chez le prématuré lorsqu'il est soumis à une température ambiante de 35,5°C. Ce paramètre semble être très sensible à l'utilisation de l'énergie pour le maintien de la température cutanée (Klaus et Fanaroff, 1993). De plus, Thorenson et al.

(1988) ont noté que la saturation en oxygène variait chez le prématuré en fonction de sa posture corporelle et de la compression de son diaphragme. Les deux méthodes de expérimentées diffèrent quant à la façon dont le prématuré est tenu par sa mère. Avec la méthode kangourou, le prématuré était installé en position ventrale à un angle d'environ 60°, tandis que durant l'expérimentation de la méthode traditionnelle, le prématuré était en position semi-assise dans le creux du bras maternel. Selon Thorenson et al. (1988), la position idéale pour optimiser la saturation en oxygène est celle de la méthode kangourou.

De plus, les analyses statistiques révèlent un effet "durée de traitement" démontrant à la fois une durée d'expérimentation plus longue pour la méthode kangourou que pour la méthode traditionnelle et une baisse importante de la fréquence cardiaque et de la saturation en oxygène pour les sujets qui n'ont pas complété l'expérimentation. Cette observation ne semble pas reliée aux caractéristiques personnelles des sujets puisque ceux-ci expérimentaient les deux méthodes. Elle semble être le résultat d'une adaptation physiologique différente du prématuré en ce qui concerne la thermorégulation. La méthode kangourou favoriserait un meilleur équilibre thermique. Ludington (1990) explique que l'augmentation du besoin d'oxygène, observée cliniquement par une baisse de la saturation en oxygène, a un lien direct avec l'augmentation des dépenses énergétiques. S'il y a augmentation des dépenses énergétiques, cela présuppose que le prématuré est exposé à un stress froid. Précisons que l'exposition du prématuré à une température ambiante de 25°C à 28°C correspond à un stress froid modéré et provoque une augmentation du métabolisme basal afin de produire de la chaleur.

Quelle que soit la méthode expérimentée, les mères ont exprimé un degré élevé de satisfaction. Ce résultat s'explique par le fait qu'aucune des mères n'avait tenu son bébé dans ses bras depuis la naissance. Le privilège de prendre l'enfant dans le cadre de cette recherche apporte un sentiment de contentement chez les mères. Cependant, l'ensemble des mères ont préféré la méthode kangourou. En effet, dans une large proportion, elles ont indiqué qu'elles sentaient leur bébé plus près d'elles et avaient l'impression de pouvoir le toucher et le caresser plus facilement sur tout son corps.

Implications pour la clinique

Cette recherche revêt un caractère particulier pour les infirmières par son originalité et son importance pour l'évolution des soins en néonatalogie. À notre connaissance, c'est la première fois que la méthode traditionnelle de sortie du prématuré fait l'objet d'une évaluation scientifique. La comparaison avec la méthode kangourou nous fait mieux connaître les limites de la méthode traditionnelle. Actuellement, plusieurs centres hospitaliers favorisent cette dernière méthode pour permettre aux parents de prendre leur enfant. Consi-

dérant que les résultats de la présente recherche sont concluants quant à la variation des paramètres physiologiques, à la durée de l'expérimentation et à la méthode préférée par les mères, il serait essentiel de reconsidérer la pertinence d'utiliser la méthode traditionnelle comme méthode de sortie du prématuré.

Nous recommandons que la méthode kangourou soit privilégiée pour sortir le prématuré de l'incubateur et ainsi répondre au besoin exprimé par les parents qui veulent des contacts directs avec leur enfant. Cette méthode est sécuritaire et permet une meilleure régulation de la température cutanée chez le prématuré pesant moins de 1800. De plus, les mères disent vivre une plus grande intimité avec leur bébé avec cette méthode. Le lieu physique de l'unité néonatale ainsi que le contexte devrait favoriser ce besoin d'intimité entre le parent et son bébé. Le père devrait tout autant que la mère avoir le privilège de prendre son enfant selon son désir. En effet, les mères souhaitent de façon unanime que leur conjoint puisse vivre cette expérience. Par ailleurs, nous n'avons aucune donnée quant au nombre de sorties quotidiennes qu'il faudrait permettre. Le prématuré qui a une perfusion intraveineuse ou celui qui reçoit de l'oxygène par lunette nasale pourraient être considérés comme candidats à cette approche avec l'approbation d'un médecin.

La méthode kangourou reflète les efforts d'humanisation des soins que les infirmières veulent préconiser dans un service de haute technologie. Cette nouvelle approche permet un contact précoce entre le parent et son bébé et favorise le développement du lien d'acointance. Les infirmières devraient implanter cette méthode de sortie des prématurés si elles désirent faciliter l'adaptation des parents à leur situation.

Recommandations pour la recherche

La présente recherche a des caractéristiques particulières qui méritent d'être soulignées : le nombre de sujets était nettement supérieur à celui des recherches existantes sur ce thème; l'évaluation comprenait deux volets (la mesure de variables physiologiques chez le prématuré et de variables psychologiques chez la mère); la durée du traitement et le choix de cinq temps de mesure des paramètres physiologiques, en plus d'être originaux, ont permis de documenter des variations importantes et des observations infirmières pertinentes quant à l'expérimentation de la méthode traditionnelle; enfin aucune recherche recensée n'avait étudié ces deux méthodes de sortie du prématuré auprès d'un même groupe de dyades (mère-bébé).

Néanmoins, plusieurs interrogations persistent qui pourraient faire l'objet d'investigations. Une étude sur les processus d'acointance et d'attachement parent-enfant comparant les deux méthodes serait souhaitable. Une

étude portant non seulement sur des paramètres physiologiques mais aussi sur certains paramètres biochimiques, tels que le taux de glucose et le taux d'hémoglobine, permettrait d'établir des liens entre l'hypoglycémie et le stress froid, et entre le taux de saturation en oxygène et le taux d'hémoglobine circulant. Nous n'avons aucune donnée relative au nombre de fois que le prématuré peut être quotidiennement tenu dans les bras de ses parents sans compromettre sa santé. Il serait intéressant de vérifier et de comparer les répercussions psychologiques de chaque méthode auprès de différents échantillons comprenant des mères, des pères, des mères célibataires ainsi que des mères et des pères adolescents.

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Plaudits & Gripes

The stated policy of assigning low priority to historical research (Spring/Printemps, 1993) confirms what some of us interested in nursing history have long suspected. We are aware of a number of nurse historians who have had papers rejected by your journal. In fact, a quick perusal of past issues indicates that only three papers remotely related to historical research have been published. This is an extremely short-sighted policy and somewhat ironic given your historical speculation in the past three editorials.

We cannot understand the present and plan for the future unless we have some awareness of how the past took shape. This is a message which all nurses engaged in research, clinical practice, or policy making must heed as we take part in reforming health services. The study of history has another value for nurses, that of learning the skills of analysis.

As you are aware, it is difficult to change that which we know. It is impossible to change that which we do not understand. Nurses responsible for the future directions of our profession cannot make informed decisions if they do not have access to the information of the past; why certain decisions were made, what the meaning of those decisions has been, what strategies were successful and which not, and why. Here are some historical questions which might be helpful for you in embarking upon the editorship of *The Canadian Journal of Nursing Research*. What particular events or conditions coalesced to enable the launching the journal? What was the publishing policy of the journal during the beginning years? Why and how was that policy determined? What forces have influenced change?

It would seem to us that the policy of the journal, laid out by Elizabeth Logan in the first issue, is still relevant. To a certain extent, the launching of the journal represented a definitive shift which occurred during the 1960s in which nursing's intellectual foundations finally settled in the biological and social sciences. From the 1960s on we heard little about "the art of nursing." Although not directly stated, it was anticipated by the founders that the journal would give university nurse researchers a forum to develop nursing knowledge (language) in "hard," value-free, objective scientific research. Nurse-researchers, usually far from the clinical setting, would determine the practices which nurses working with clients were expected to follow. A second intention was that by adopting the language of science nurse researchers could help other health professionals better understand nursing.

Last year marked the 350th anniversary of the arrival of the first nurse, Jeanne Mance, in Canada. To a certain extent that represents 350 years of organized nursing. Nineteen hundred and ninety-three marks the 100th anniversary of the first formal meeting of nurses held at the Chicago World's

Fair. This gathering is the root of our present national and international nursing organizations – ICN, CNA and later CAUSN. Canadian nurses, such as Isabel Hampton Robb, Adalaide Nutting and Mary Agnes Snively, to name a few, played leadership roles during the early years of those organizations, generating ideas which influence us even today (Hamilton, 1994). During the next five years the VON (1897) will mark 100 years of service to the public, the *Canadian Nurse* (1905) will mark 90 years of service to nurses, and the 75th anniversary of six university schools of nursing – British Columbia (1919), Dalhousie, McGill, Toronto, Western, Alberta (1920) – will be celebrated. Owing to the lack of recognition we have given to our history the contribution of these institutions goes unknown. All these events provide an opportunity for historical reflection and critical analysis of our past.

The point we would like to make is that your practice of paying low priority to historical research is denying your readership access to valuable nursing knowledge. We assume that your readership includes the leading researchers, academics, and policy makers of Canadian nursing. They are at a grave disadvantage in making decisions which will affect the whole profession when they are unaware of the forces – within and outside of nursing – which have influenced our present nursing culture. Clinical nurse researchers who are not introduced to critical and historical analysis of the cultural traditions which inform their research, who are unaware of the subconscious biases they bring to that research, will ultimately fail to advance our knowledge. An understanding of the historical perspective will allow nurses to broaden their perspectives, to assess the constraints and opportunities under which past decisions were made, and to recognize that professional nursing continues to evolve as nurses work with clients to promote the health of our society.

Anne Marie Arseneault and Lynn Kirkwood
Canadian Association for the History of Nursing (CAHN)/
Association canadienne pour l'histoire du nursing (ACHN)

References

Hamilton, D. (1994). Constructing the mind of nursing. *Nursing Historical Review*, 2, 3-28.

Note From the Editor:

It is indeed unfortunate that the policy regarding historical research, as set forth in my editorial *Setting New Directions and Meeting Old Challenges* (Spring 1993) was taken out of context and misinterpreted. To reiterate the policy, the *CJNR* publishes research and theoretical articles on a broad range of topics including historical research. Given that the majority of readers look to the journal for clinical research articles, premium will be given to clinical research. That is not to say that historical research is unimportant but rather,

the policy reflects the expressed interests of its subscribers. The paucity of historical articles in recent issues is regrettable but it is not due to the reasons set forth in the letter. Historical research manuscripts are subjected to the same peer review process as are other manuscripts. Thus, manuscripts dealing with a historical topic have been sent to other nurse-historians. Decisions were based on their recommendations. Authors were invited to revise along the lines suggested by their peers but, for whatever reason, chose not to resubmit. This situation is regrettable and represents a tremendous loss both to scholars and to our readership. I welcome and invite our fellow historians to submit articles to the *Canadian Journal of Nursing Research*. Let me assure fellow historians, your scholarship is welcomed and sorely needed.



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The Canadian Journal of Nursing Research
Revue canadienne de recherche en sciences infirmières

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Acknowledgement to Reviewers of Volume 25

The Canadian Journal of Nursing Research is indebted to the persons below who served as reviewers for Volume 25 of the CJNR. They gave generously of their time and shared their knowledge and in so doing have contributed greatly to the editorial process and to the development of nursing knowledge.

La Revue canadienne de recherche en sciences infirmières est reconnaissante envers les personnes ci-dessous nommées d'avoir révisé son volume 25. Ces personnes ont généreusement donné de leur temps et partagé leur savoir. Ce faisant, elles ont largement contribué au processus éditorial et au développement des connaissances en sciences infirmières.

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Information for Authors

The Canadian Journal of Nursing Research is a quarterly journal. Its primary mandate is to publish nursing research that develops basic knowledge for the discipline and examines the application of the knowledge in practice. It also accepts research related to education and history and welcomes methodological, theory and review papers that advance nursing science. Letters or commentaries about published articles are encouraged.

Procedure: Three double-spaced typewritten copies of the manuscript on 8½ x 11" paper are required. Articles may be written in French or English. Authors are requested not to put their name in the body of the text, which will be submitted for blind review. Only unpublished manuscripts are accepted. A written statement assigning copyright of the manuscript to *The Canadian Journal of Nursing Research* must accompany all submissions to the journal. Manuscripts are sent to: The Editor, *The Canadian Journal of Nursing Research*, McGill University, 3506 University Street, Montreal, Qc H3A 2A7.

Manuscripts

All manuscripts must follow the latest edition of the *Publication Manual of the American Psychological Association*. Research articles must follow the APA format for presentation of the literature review, research questions and hypotheses, method, and discussion. All articles must adhere to APA guidelines for references, tables and figures. Do not use footnotes.

Title page: This should include author(s) name, degrees, position, information on financial assistance, acknowledgements, requests for reprints, address, and present affiliation.

Abstract: Research articles must include a summary of 100-150 words containing information on the purpose, design, sample, findings, and implications. Theory and review papers must include a statement of the principal issue(s), the framework for analysis, and summary of the argument.

Text: The text should not exceed 15 double spaced typed pages. References, tables, and figures should follow the text.

References: The references are listed in alphabetical order, double spaced and placed immediately following text. Author names and journal citations must be spelled out in full.

Tables and Figures: Tables and figures should only appear when absolutely necessary. They must be self explanatory and summarize relevant information without duplicating the content of the text. Each table must include a short title, omit abbreviations and be typed on a separate page. Figures must be in camera-ready form.

Review process and publication information: *The Canadian Journal of Nursing Research* is a peer-reviewed journal. Manuscripts are submitted to two reviewers for blind review. The first author will be notified following the review process which takes 10 weeks to complete.

Electronic copy: Authors must provide satisfactory electronic files of the accepted final version of the manuscript.

Renseignements à l'intention des auteurs

La revue canadienne de recherche en sciences infirmières paraît quatre fois par année. Son mandat est de publier la recherche en sciences infirmières qui développe les connaissances de base dans la discipline et qui analyse la mise en pratique de ces connaissances. La revue accepte aussi des articles de recherche reliés à l'enseignement, l'histoire, et accueille des articles ayant trait à la méthodologie, la théorie, et l'analyse qui promouvoit le développement des sciences infirmières. Les soumissions de lettres et de commentaires sur des articles publiés sont aussi encouragées.

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Tous les manuscrits doivent se conformer à la plus récente édition du *Publication Manual of the American Psychological Association*. Les articles de recherche doivent suivre les consignes énoncées dans le "APA" en guise de présentation de la littérature, des questions de recherche et d'hypothèses, de la méthode, et de la discussion. Tous les articles doivent obéir au manuel "APA" pour les références, les tableaux, et les schémas. N'employez pas de notes au bas de la page.

Page titre: Elle devrait inclure le nom, l'adresse et l'affiliation de l'auteur ou des auteurs, les diplômes obtenus, information sur l'aide financière obtenue, remerciements, demande de copies.

Résumé: Les articles de recherche doivent être accompagnés d'un résumé de 100 à 150 mots, incluant l'objet de la recherche, la conception, l'échantillon, les résultats et les implications. Les manuscrits de théories et de critiques doivent inclure une déclaration des arguments principaux, la structure d'analyse, et un résumé de la discussion.

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NURSING**

**MASTER OF SCIENCE (WITH THESIS)
MASTER OF SCIENCE (APPLIED)**

These programs have been designed to prepare clinicians and researchers for the expanding function of nursing within the health care delivery system. Preparation for the teaching of nursing or the management of nursing service is also offered.

Admission requirements

Either a Baccalaureate degree in Nursing comparable to B.Sc.(N) or B.N. from McGill; or a Baccalaureate degree comparable to B.A. or B.Sc. offered at McGill (for those with no nursing preparation).

Length of program

Two years for those with nursing degrees;
Three years for non-nurses.

Language of study: English

Further information from:

Associate Director, School of Nursing
Graduate Programs
3506 University Street
Montreal, QC, H3A 2A7

Enquiries regarding **Ph.D. studies**
should also be made to the
Associate Director, Graduate Programs

