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EDITORIAL

Addressing the Nursing Shortage: Researchers and Clinicians Unite

Throughout North America, nursing is on the defensive and, sometimes, on the offensive. As hospitals and other health-care institutions try to cut costs, they are sacrificing nursing care at the bedside and in the community. Hospital units are chronically short-staffed. Nurses are having difficulty finding full-time work. Demoralized and depressed at the conditions under which they must work, nurses are burning out. They are leaving the profession. Worse still, they are discouraging young men and women from entering the profession. Nursing students report that when they tell veteran nurses that they are planning a career in nursing, they inevitably are greeted with a negative response. We have been asking veteran nurses if they would encourage a daughter or son, friend, or relative to be a nurse, and they almost uniformly say they would not. The conditions under which nurses work and the profession of nursing have become so intertwined that nurses cannot distinguish between the two. Rather than saying, "Oh yes, do become a nurse — we need more energetic, bright people to promote health, care for the sick and dying, and fight for better conditions in the profession," nurses say, "Don't do it — why would you want to become a nurse today?"

Similarly, in Canada, when nurses say they are leaving the public sector or that they support a privately funded health-care system, they never say it is because they will make more money in a private system; rather, they view the private system as providing nursing with better working conditions and greater support.

If the profession is to survive, we clearly need energized nurses who believe in the possibility of change and who believe that they will be able to practise their profession in the way they have been taught, dispensing what they believe is quality care. We need nurses who believe they can change the public system in ways that will result in more support for nursing practice.

Strengthening the position of our clinicians who are involved in direct patient care will require a concerted effort that is supported by nursing academics and researchers. But today, even though the

research-practice gap is a favourite topic of discussion, in reality it is only widening. Researchers and academics are simply not speaking a language that practising nurses understand, and are not arming nurses with the arguments, data, and statistics needed to preserve existing advances and to promote professional practice in settings that provide the resources and respect required for good nurses to practise good nursing.

What can be done? Nurse researchers need to understand that their mandate comes from nursing practice. They also need to understand the connection between political action and research. What good will it do to demonstrate that expert nurses don't need to use restraints to control wandering among demented patients if there aren't enough expert nurses to supervise these patients in better ways? What good does it do to demonstrate that, with appropriate training, nurses in nursing homes can provide better management of dying patients, and thus improve the final days of life, if there aren't enough nurses to put this approach into effect? What good does it do to demonstrate a variety of improvements in care if there aren't enough nurses on a hospital floor to allow other nurses time off the unit to learn about these advances?

Nurse researchers have to address the problems of shortages and retention in nursing, and they have to use their research as well as their voices to support the struggles of the practice aspect of the profession. The concept of political action has to be extended beyond fighting for more research dollars and more money to build research capacity. It has to include active, assertive efforts to visibly support nurses by giving them the tools they need for the struggles in which they are involved.

One very concrete way nurse researchers can do this is to make their findings accessible and available to nurses engaged in particular struggles to protect the profession. When nurses go on strike or are involved in political negotiations with the government, researchers need to reach out and provide them with relevant studies and data. It is not enough to publish research in journals such as this one. We must translate the research into language that nurses, as well as decision-makers and the public, can understand. This means taking the time to summarize studies in accessible and comprehensible language, and, further, to turn the results of studies into arguments that nurse-advocates can use. It means reaching out — picking up the phone, for example, and calling a nursing union or organization engaged in a struggle and saying, "I have something that might be useful to you. Here, let me send it to you." This research may be your own or other

work that supports the struggle. It means offering to speak to direct-care nurses and to help them formulate the issues and articulate arguments in ways that administrators and politicians will understand. We have to learn how to translate research findings into different languages for different audiences.

Nightingale said it best when she talked about nursing and the imperative of scientific observation. "In dwelling upon the vital importance of sound observation, it must never be lost sight of what observation is for. It is not for the sake of piling up miscellaneous information or curious facts, but for the sake of saving life and increasing health and comfort."

We need to extend this approach to saving the profession.

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GUEST EDITORIAL AND DISCOURSE

International Nursing: The Benefits of Working Together to Improve Nursing Globally

Susan E. French

Nursing around the world is experiencing many common problems and challenges in its growth as a profession. The predominant issues, internationally, in nursing are: generation, dissemination, and utilization of relevant nursing knowledge; nursing's limited influence on policy formulation and implementation and on planning; the need for enhancement of nursing education (basic and post-basic); imbalances between supply and demand and maldistribution in favour of urban-based and curative services; poor working conditions; and the substitution of unregulated health-care workers for professional nurses. These issues reflect the state of nursing human resource development (NHRD) around the world, the three major components of which are: planning and policy; production — that is, the preparation of nurses to meet the health needs of a population; and management, which addresses all aspects of nurses' work — practice, recruitment, retention, utilization, and the work environment.

The state of nursing knowledge varies internationally. Countries in the North have developed highly specialized bodies of knowledge, including nursing concepts, models, and theories. In these countries research is integral to the profession and nurses are strongly urged to engage in reflective practice and to base that practice on scientific evidence generated through a rigorous research process. New knowledge is being generated on nursing interventions as well as on education, organization of nursing services, and all dimensions of nurses' work life. At the other end of the continuum are countries in which nursing relies almost exclusively on knowledge generated elsewhere. Often, that knowledge is accepted without critical appraisal of its local relevance or awareness that it is outdated. The result may be nurses who are inadequately prepared to deal with the health problems of the population they serve. I vividly recall visiting a rural health unit in the South in the early 1980s and being informed by the nursing personnel that they had finally overcome the traditional practice of women using

a squatting position for childbirth. The nurses were using 1970s textbooks and had no idea that a number of the traditional practices they had strived to eliminate were highly valued at birthing centres in the North.

Nursing in the North has a plethora of resources for not only the generation of knowledge but also the dissemination of that knowledge. The vast majority of learning resources, including textbooks, journals, and audio- and videotapes, are produced in the North. Frequently, differential stages of development result in the profession in the North thinking of international nursing in terms of a one-way transfer of knowledge and skills, from the North to the South. We fail to recognize that the knowledge and skills of nursing in the South could be beneficial to nursing in the North. Even when forums such as journals and International Council of Nurses conferences are available, in many countries nursing lacks the resources to generate, compile, or share information.

There is a dearth of information on nursing from a global perspective. Nursing collaboration among countries within the North or the South or between the North and the South is a means of generating and sharing information and acknowledging the reciprocal nature of the exchange. International research poses special problems — for example, variation in interpretation of concepts, means of collecting and storing data, and responses of subjects to specific data-collection methods or instruments. For instance, mailed questionnaires are an effective survey tool in North America but not in Pakistan. However, the articles in this issue of *CJNR* show that the benefits of being able to compare dimensions of nursing across countries do outweigh the difficulties inherent in conducting research internationally.

Planning refers to the process of estimating the number of nursing personnel and the type of knowledge, skills, and attitudes needed to meet predetermined health targets (Hall & Mejia, 1978). Policy refers to statements made by relevant authorities to guide the allocation of resources (World Health Organization [WHO], 1990). Policy formulation and implementation and planning occur at the international, national, regional, and local level. Frequently, there is a gap between policy and implementation. The political influence of nursing varies internationally, ranging from little or no influence at any level to some degree of influence at every level. Tornquist and associates report that the lack of nursing influence at the policy and planning levels can have significant consequences for recruitment and retention, basic and post-basic education, working conditions, and legislative support for nursing practice (Tornquist et al., 1997). In Canada the profession does

have influence; for example, its input into national policy on health-care reform has been accepted (Canadian Nurses Association, 1988). In some countries, in contrast, nursing has little or no influence, even at the institutional level, over the policy and planning decisions that affect nurses' work lives.

The value placed on nursing's contribution to health care by society, politicians, bureaucrats, administrators, and other health professionals — especially physicians — is a major determinant of its influence. The development of nursing tends to be influenced by three factors: power, gender, and the medicalization of health services (WHO, 1994). Globally, nursing is seen primarily as women's work, and women's work is undervalued. In countries in which women have lower social status and less power than men, nursing has lower status and less power than male-dominated occupations. The degree to which health services are medicalized with the concomitant dominance of medicine (primarily male physicians) affects the status and practice of nursing. Recognition and acceptance of the importance of primary health care and the role that nursing can play in achieving health impacts on the status of nursing. For instance, in Iran after the revolution of 1979 nursing was seen by the government as having an integral role to play in the restructured health services. The status of nursing was enhanced, and significant changes were made in both nursing education and the work life of nurses, reflecting the government's valuing of nursing and its commitment and support to the development of nursing as integral to the national health-care system (Salsali, 1998).

Tornquist et al. (1997) identify four developments necessary for nurses to contribute as policy-makers: national political will and recognition by politicians and other decision-makers of nursing's contribution to health care; possession by nurses of the knowledge and skills to participate in policy-making; possession by nurses of leadership skills at all levels; and nursing education at the basic level stressing the importance of policy formation and the need for leadership in the profession. The last three suggested developments have major implications for basic and post-basic nursing education, including continuing education.

In a survey conducted by the International Council of Nurses (1995), professional nursing organizations identified education as the top priority. Globally, there is much diversity in nursing education. Many countries are changing or seek to change the focus of education; move education away from service institutions to institutions of higher learning, including universities; elevate educational entry requirements; and adopt more student-centred, interactive approaches to learning.

Many countries have an inadequate recruitment pool, while in other countries the pool is adequate but a situation of ever-increasing career options leads to under-enrolment. In most countries nursing is viewed as women's work and the applicant pool is dependent on the educational level of young women. In Paraguay, for instance, as the level of general education rises, nursing is altering the minimum educational standards for entry. Nursing education, especially the ratio of male to female students and the approach to teaching and learning, is greatly influenced by its socio-cultural environment. The transition to higher education is no easy feat, as recent experience in the United Kingdom demonstrates (Draper, 1996). In countries that have made the transition to exclusively university-based fundamental nursing education — for example, Chile, Colombia, and Australia — the key variables were government support and a unified position by nursing leaders. In the U.S. and Canada, on the other hand, nursing has advocated for university-level preparation for entry to the profession but for numerous reasons has yet to fully realize the transition.

The move to higher educational standards is associated with the following factors: changes in the health status of populations; greater attention to health promotion and disease prevention; restructuring of health services; rapid advances in knowledge and technology; the need for research and evidence-based practice; and resultant changes in the knowledge, skills, and attitudes required for the practice of nursing. In addition to changes in basic nursing education, nursing education around the world is placing increasing emphasis on specialty preparation, especially clinical specialization, and on post-graduate preparation.

The nature of professional education is also changing, with increased recognition of the need for professionals to possess the attributes of the liberally educated (Gillis, Lellan, & Perry, 1998), to be life-long learners, to be effective utilizers of research, and, for some, to generate nursing knowledge. More attention is being paid to the learning process and the facilitative role of faculty. The need for nurses to be life-long learners is resulting in increased emphasis on continuing education. Thus nursing is attempting to change its approach to basic education while simultaneously providing advanced education at the levels of graduate and continuing education — a formidable task, particularly when working conditions place considerable strain on the profession.

Fluctuating imbalances between supply and demand in nursing personnel is a universal problem. In countries where nurses are viewed as an exportable human resource, supply may exceed demand (Marsden, 1994), but the more common situation is a nursing shortage. Countries in which nursing is not well established, such as the United

Arab Emirates, must recruit the vast majority of their nurses from other countries. Even countries in which nursing is well established, such as the U.S., the U.K., and Canada, experience fluctuating imbalances between supply and demand. Myriad factors contribute to such imbalances, but certainly the lack of health human resource development (HHRD) in general and NHRD in particular are pre-eminent factors. Increasingly more attention is being given to coordinating HHRD with the development of a country's health services (Hall & Mejia, 1978). A coordinated approach to HHRD is a challenge at the conceptual stage. In nursing, attempts have been made to coordinate NHRD with the development of health services, but NHRD is at an embryonic stage in its development.

In most countries, health-care services and nursing have evolved with a strong bias in favour of curative and institution-based care. Despite deeply entrenched hospital-based curative systems, health services around the world are placing greater emphasis on health promotion, disease prevention, and primary health care. Nursing has recognized these shifts and is attempting to make the necessary changes to support the goal of health for all (e.g., Salvage, 1993). Nursing in countries of the North is encountering difficulties moving from a disease-curative orientation to a health-promotion/prevention one, while countries in the South, such as Pakistan, with their limited resources and/or a less highly developed nursing profession, are experiencing even greater problems.

Nurses work in many different settings, their role ranging from medical assistant to autonomous practitioner providing comprehensive health services. Globally, nursing personnel endure poor working conditions, and working conditions are associated with a low status, while low status is, in turn, associated with the status of women (Tornquist et al., 1997). A major debate within nursing is whether the presence of more men in the profession will raise the status of nursing or result in just another instance of male dominance. The male:female ratio is relatively small in the majority of countries; for instance, only 4.2% of registered nurses employed in nursing in Canada in 1997 were men. However, in Spain, Italy, and Malta the percentage is 15% or higher. Research shows that upward mobility within the profession differs for men and women, with men occupying leadership positions disproportionately to their numbers (Marsden, 1994). Around the world, the majority of nurses work in hospital settings, which have what Acker (1990) refers to as a gender substructure reproducing gender divisions and inequalities. Surveys have shown that working conditions are affected by an insufficient number of nurses in key positions to influ-

ence policies concerning the employment of nurses, inadequate preparation of nursing leaders for their roles, and inadequacies in basic nursing education with respect to political influence and leadership (Tornquist et al.). The gender distribution in nursing and the structures within which nurses work make it difficult to differentiate issues peculiar to nursing and its work environments from issues of women in general. Much of the research on the role of nursing personnel and working conditions has been conducted in the North and among nurses employed in hospital settings.

In many countries, nursing has various levels of personnel and the nature and scope of practice by each cadre is not always discerned by members of the public or by other health-care providers. The resulting role diffusion affects the status accorded nursing — for example, nursing may be seen as an occupation that requires little education. In a number of countries, especially those in the South, nursing has for years been dealing with the issue of unregulated health-care workers, whereas in North American countries the presence of unregulated health-care workers in the delivery of health services is a relatively new phenomenon. The de-professionalization of nursing services that results when poorly qualified staff are substituted for professional nurses is associated with insufficient information to support the value of professional nursing on patient outcomes. Investigation of the relationship between nursing services and patient outcomes (e.g., Blegen, Goode, & Reed, 1998) is difficult to conduct, but the findings of such research are paramount in demonstrating the value of nursing.

The four articles selected for the focus of this issue of the Journal illustrate the value of international collaboration in generating nursing knowledge and the issues involved in conducting international research. All address one or more dimensions of NHRD. The article by O'Brien-Pallas et al. illustrates the gap between policy and its implementation, even when the policy arises from a highly authoritative body such as the World Health Organization; the difficulties involved in obtaining cross-country information on policy implementation; and the value of examining the current situation as part of the planning process. Their study also demonstrates the international variation in availability and accessibility of accurate information on nursing. Developing a data-collection tool applicable to diverse groups is always a challenge, even more so in the face of multiple languages and nuances of language. This study also illustrates the problems inherent in gathering data across multiple settings when one does not have firm control over the process.

Globally, nursing education is moving away from teacher-centred approaches to those that focus on the learner and the learning process. Carpio et al., in their study of learning styles among students and faculty in Canada and in Chile, provide evidence on why we need to pay attention to differences in how persons learn. While this study dealt with basic nursing education, its results have relevance for lifelong learning and all levels of nursing education — including continuing education, which is recognized as essential for any health professional today.

Most of the research on the factors that affect the quality of the work environment and/or intention to leave nursing has been conducted in the North American/European context. The study by Al-Ma'aitah et al. provides important information on the work life of nurses in Jordan, identifies the similarities of work life there with that of nurses in other countries, and makes an important contribution to our understanding of the different or similar experiences of female and male nurses. It illustrates how researchers capitalizing on a unique environment in the South can generate information of value to nursing everywhere. The 4:1 female:male ratio of Jordanian nurses allows for the study of gender differences in an occupational group within one particular societal and work environment. The study also confronts the issue of establishing validity and reliability of research instruments developed for use in another culture or country. Although as researchers we are forewarned to establish validity and reliability of instruments for populations that differ from that used in developing the tool, this caution is often overlooked.

The description of the international multi-site study by Sochalski et al. to explicate the role of the organization of nursing on differential patient outcomes provides valuable information on conducting rigorous international research and effectively using national expertise. One of the most contentious issues in nursing is that of evaluating the impact of nursing on the health outcomes of the population being served. This study involving several countries of the North addressed outcomes in relation to the organization of services. The findings will be of great interest to nursing, governments, and other entities. The evolution of the study illustrates a keen awareness of country differences and the value of rigour at the planning stage — for example, careful attention to design, instrument-development and data-collection measures, and sampling frame.

The issues that confront nursing worldwide are not easily resolved. By working together and sharing information we stand to learn valuable lessons from one another. Enhanced technology as well as increas-

ing international mobility of professionals allows for greater collaboration, but that collaboration will not occur unless nursing recognizes and values the reciprocal nature of the exchange. The contributors to this issue of *CJNR* have experienced firsthand the challenges and benefits of collaborative research.

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Predictors of Job Satisfaction, Turnover, and Burnout in Female and Male Jordanian Nurses

Rowaida Al-Ma'aitah, Sheila Cameron, Martha E. Horsburgh, and Marjorie Armstrong-Stassen

En raison des importants changements qui ont lieu au sein des systèmes de santé, le phénomène de la satisfaction professionnelle, du roulement de personnel et de l'épuisement professionnel chez les infirmières et infirmiers constitue un sujet d'intérêt pour les communautés infirmières partout dans le monde. Cette recherche avait pour objectif d'examiner ces phénomènes au sein d'une population infirmière jordanienne, constituée de 25 % d'hommes. Cette étude descriptive corrélative a été menée auprès d'un échantillonnage de 479 infirmières et infirmiers (68 % de femmes, 32 % d'hommes) travaillant dans des hôpitaux publics et militaires en Jordanie, ce nombre constituant un taux de réponse à une enquête de 77 %. Des différences importantes ont été relevées entre les hommes et les femmes concernant certains aspects mesurés, mais tel n'était pas le cas quant au roulement de personnel et à l'épuisement professionnel. Toutefois, des analyses de régression ont démontré que des variables exerçaient des influences différentes sur les hommes et les femmes en ce qui a trait aux 3 indicateurs de résultats. Les conséquences en regard de l'exercice de la profession en Jordanie font l'objet d'une discussion.

As health-care systems undergo significant changes, the phenomena of job satisfaction, turnover, and burnout in nurses are of interest to nursing communities throughout the world. The purpose of this research was to examine these phenomena in a population of Jordanian nurses that is constituted of 25% men. This descriptive correlational study involved a sample of 479 nurses (68% female, 32% male) employed in public and military hospitals in Jordan, representing a 77% response rate to a survey. Significant differences were found between men and women for some of the items measured but not for turnover or burnout. However, regression analyses did demonstrate that selected variables impacted differently on men and women for the 3 outcome measures. Implications for nursing in Jordan are discussed.

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In the past decade Jordan has witnessed tremendous improvement in women's education and health status, and increasing numbers of Jordanian women are remaining in the workforce after they marry (Department of Statistics, 1998). The majority of these women work in the education sector (54%), followed by the health and social services sector (15%). However, Jordanian women who enter the workforce have many demands and responsibilities placed on them, as they are expected to fill multiple roles. Married women in the workforce are often also mothers and housekeepers, and must assume full responsibility for child care. These factors often contribute to the stress they experience in their lives. Also, many women quit their jobs in order to marry and have children, thus contributing to high turnover rates in professions such as nursing.

The total number of nurses in Jordan is estimated at more than 6,000. They graduate from either a 4-year nursing baccalaureate program or a 3-year diploma program (Ministry of Health, 1998). Gender imbalance in nursing is not as significant a problem in Jordan as it is in many other countries. The last 10 years have seen a dramatic increase in the number of male nurses entering the profession, and male nurses now constitute approximately 25% of nurses in the country. However, nursing is still perceived as women's work (Al-Ma'aitah, Rajacich, & Khasawneh, 1995; Fagin & Maraldo, 1988). As the proportion of male nurses in Jordan has increased, male/female issues in the profession have become an important topic requiring further study (Al-Ma'aitah et al.).

Currently, Jordan is facing a severe shortage of qualified nurses, and this contributes to low standards of nursing care. Furthermore, due to shortages of other qualified support staff in the health sector, such as nursing assistants and paramedics, nurses are spending more time on non-nursing functions. Nurses have been moving from hospitals to other points of delivery in the health-care sector in Jordan and to other countries in the Gulf region, thus contributing to a nursing deficit in the hospital sector. In addition, nurses who are unwilling to do shift work, or who prefer to do light work, usually move to Public Health Centres, thus also contributing to this deficit. It is readily apparent that nurses in the hospital sector are faced with many critical and challenging issues.

Literature Review

Dissatisfaction with hospital jobs is frequently cited as an explanation for job turnover in nursing (Blegen & Mueller, 1987; Curry, Wakefield,

Price, Mueller, & McCloskey, 1985). Jones (1990) reports that job turnover itself is costly and that it causes unstable staff complements and contributes to increased dissatisfaction among the remaining employees. Using a causal modelling approach to test job satisfaction in nursing, Blegen and Mueller found that predictors included opportunities for promotion, perceived fair rewards for work done, reasonable workload, and family responsibilities and stressors.

In a meta-analytic study, Irvine and Evans (1995) investigated causal relationships among job satisfaction, behavioural intentions, and nurse turnover behaviour. They found that job characteristics such as routinization, autonomy, and role conflict, and characteristics of the work environment such as supervisory relations, leadership, and stress were all related to job satisfaction. They found that work content and work environment variables had a stronger relationship with job satisfaction than economic or individual difference variables, and they found a negative relationship between job satisfaction and turnover. In a review of factors influencing turnover and absence, Borda and Norman (1997) also found that job satisfaction was positively related to remaining in the position and inversely related to absence from work.

In an extensive review of the literature on recruiting and retaining men in nursing, Villeneuve (1994) concluded that men like nursing and that nursing is appropriate work for both men and women. Villeneuve writes that male nurses' reasons for choosing certain clinical or technical areas "may be related to anticipated role strain, but it also may reflect their genuine gender-related interests, career orientation, and perception of autonomy" (p. 225). In a survey of male nurses, Cyr (1992) found that more men are now viewing nursing as a career rather than as a job.

It appears that some Jordanian studies support North American findings regarding issues of nursing worklife. Al-Ma'aitah (1989) examined the role of psychosocial factors in the decision of Jordanian baccalaureate nurses to remain in or leave the profession. These factors were: personal beliefs about having a good position, satisfaction with communicating with people, feeling confident, having more time for their own goals and plans, having more time for social life, feeling fulfilled, and being burdened with responsibilities.

Ahmad, Saleem, Shankary, and Safady (1994) studied psychological stressors among nurses working in critical care at Jordan's King Hussein Medical Center. They found no differences between the ratings of female and male nurses for severity of stressors and depression, but they did find significant differences in the ratings for anxiety.

ICU/CCU female nurses were found to be more anxious than their male colleagues, but no difference was found between female and male nurses working in medical/surgical or hemodialysis units. Armstrong-Stassen, Al-Ma'aitah, Cameron, and Horsburgh (1994), in a study with Canadian and Jordanian nurses, found that type of work, amount of work, and career future were important determinants of burnout. They also found that satisfaction with career opportunities and burnout were associated with intention to leave (turnover) for both groups.

The purpose of the present study was to identify factors that affect job satisfaction, burnout, and turnover relative to the quality of work-life for female and male staff nurses in hospital units in Jordan. The research question was: *Among male and female nurses, what personal characteristics, structural characteristics (job status and unit type), job-enhancing and job-limiting characteristics, and organizational characteristics are the best predictors of (a) job satisfaction, (b) propensity to leave, and (c) burnout?*

Conceptual Framework

The Person-Environment Fit Model (PE Fit Model) (French, Caplan, & Van Harrison, 1982) provided a framework for conceptualizing nurses' satisfaction with worklife. The model views "workers" as characterized by abilities and needs, and "work environments" as characterized by supplies and demands. "Goodness of fit" occurs when nurses' needs are congruent with environmental supplies and when nurses' abilities are congruent with environmental demands. In this study it is proposed that a good fit between nurses' perceived abilities/needs and work supplies/demands will lead to greater job satisfaction, less turnover, and less burnout.

Measures

Demographic variables comprised age, marital status, number of children, nursing education, work experience (length of time employed as a staff nurse in a hospital setting), type of nursing unit, and socio-economic status (Hollingshead, 1975).

Work Environment Measures

The Quality of Worklife Conditions (QWL-C) (Sashkin & Lengermann, 1987) measures satisfaction with conditions of work. Internal consis-

tency of the total score was supported (Cronbach's alpha, .67) in this study. However, internal consistency scores of the instrument subscales were unsatisfactory and were discarded in favour of two nine-item subscales derived by using Principle Factor Analysis with a varimax, orthogonal rotation.

The first subscale, conceptualized as job-limiting characteristics, included nurses' perceptions of repetition, speed, and coordination of work tasks, with decision-making and problem-resolution referred to their superiors in the nursing management hierarchy. The second subscale, job-enhancing characteristics, included perceptions of autonomy and control in decision-making and problem-solving, and pressures and opportunities to learn in the context of nursing work. The Cronbach's alphas for these new subscales were .58 and .53, respectively.

The Index of Organizational Reactions (IOR) (Smith, 1976), consisting of 42 items, focused on employee satisfaction with eight specific aspects of their job and current work environment: supervision, hospital identification, kind of work, amount of work, co-workers, physical conditions, financial rewards, and career future. Alpha reliability for subscales ranged from .75 to .91.

Outcome Measures

The Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Dawis, England, & Lofquist, 1967) was used as a global measure of job satisfaction. The MSQ consists of 20 items, ranging from very dissatisfied (1) to very satisfied (5) (Cronbach's alpha, .86). The Propensity to Leave instrument (Lyons, 1971) was used to measure the likelihood of the nurses leaving their current job (turnover). A Cronbach's alpha of .85 supported the internal consistency of this three-item scale. These measures continue to be used extensively in worklife research and have well-established reliability and validity (Borda & Norman, 1997; Young, 1991).

The Burnout Scale (adapted from Maslach & Jackson, 1981), consisting of 16 items and designed to measure the burnout syndrome in human services professionals, provides three subscales: emotional exhaustion (7 items), depersonalization (4 items), and lack of personal accomplishment (5 items) (Cronbach's alpha of .78 in this study). This measure has satisfactory reliability and validity with a variety of employee populations (Maslach & Jackson).

Method

Sample

The sample consisted of 479 registered nurses. Female nurses accounted for 68% of the sample (n = 327), males 32% (n = 152). For female nurses, the mean age was 27.39 years (SD = 5.54), they had worked as a nurse for M = 5 years (SD = 4.8), and 50% were married. For male nurses, the mean age was 27.82 years (SD = 5.12), they had worked as a nurse for M = 4.5 years (SD = 4.5), and 57% were married. There were no significant differences between women and men for years of nursing experience, socio-economic status, or family stress. Significantly more male than female nurses were married. A higher proportion of men (47%) than women (33%) had a baccalaureate education.

Procedure

The measures were translated into Arabic and then back translated to ensure accuracy of wording and meaning of the items. In addition, they were reviewed by nursing experts in Jordan to ensure cultural appropriateness, and had been used previously with Jordanian populations (Armstrong-Stassen, Al-Ma'aitah, Cameron, & Horsburgh, 1994, 1998). The questionnaire, accompanied by a letter outlining the purpose of the study and assuring confidentiality and anonymity, was distributed to registered nurses employed in public and military hospitals in Jordan. The nurses were requested to complete the questionnaire and the demographic data sheet that were distributed and collected personally by the investigators. Return of the completed questionnaire constituted consent. The response rate was 77%.

Results

Comparisons of work environment and outcome variables for Jordanian nurses by gender are shown in Table 1.

Analysis of variance indicated significant differences between women and men for job-enhancing characteristics (F = 4.2, p < .05), kind of work (F = 12.2, p < .001), general satisfaction (MSQ) (F = 5.2, p < .05), and intrinsic satisfaction (F = 9.1, p <.01). Female nurses perceived higher job-enhancing characteristics and satisfaction with the kind of work they were doing. Female nurses were marginally more satisfied with their financial rewards (F = 3.6, p < .06) and their career future (F = 7.2, p < .06). Female nurses reported significantly higher general satisfaction and intrinsic satisfaction. On the outcome measures of

Table 1 *ANOVA Gender Comparisons of Work Environment and Outcome Variables for Jordanian Nurses*

Work Environment and Outcome Variables	*Range*	Female (n = 327) *M*	*SD*	Male (n = 152) *M*	*SD*	*F*
Quality of Worklife – Conditions						
Job-Limiting Characteristics	3–33	18.4	(3.8)	18.5	(3.8)	0.1
Job-Enhancing Characteristics	2–34	22.1	(3.9)	21.3	(4.2)	4.2*
Index of Organizational Reactions						
Supervision	6–30	18.2	(5.1)	17.6	(5.6)	1.7
Hospital Identification	5–25	13.4	(4.1)	12.8	(4.2)	1.7
Kind of Work	6–30	21.0	(5.3)	19.2	(5.5)	12.2**
Amount of Work	4–20	11.5	(3.7)	10.9	(3.4)	3.3
Co-workers	5–25	16.2	(4.2)	16.5	(3.7)	0.2
Physical Work Conditions	5–25	19.4	(5.8)	19.0	(6.1)	0.6
Financial Rewards	5–25	13.0	(3.7)	12.3	(3.8)	3.6+
Career Future	5–25	14.6	(4.7)	13.4	(4.8)	7.2+
Minnesota Satisfaction Questionnaire						
Intrinsic Satisfaction	12–60	41.1	(7.6)	38.9	(7.0)	9.1**
Extrinsic Satisfaction	6–30	17.1	(5.1)	16.4	(4.6)	2.3
General Satisfaction	20–100	54.0	(12.8)	61.2	(11.1)	5.2*
Propensity to Leave	3–15	8.9	(3.3)	9.2	(3.3)	0.9
Burnout Scale						
Emotional Exhaustion	7–28	16.8	(4.5)	16.8	(4.6)	0.0
Depersonalization	4–16	6.1	(2.5)	6.5	(2.8)	2.4
Lack of Personal Accomplishment	5–20	10.2	(2.7)	10.5	(3.1)	1.9

† $p < .06$ * $p < .05$ ** $p < .001$

propensity to leave and of burnout, there were no significant differences between female and male nurses.

In order to examine predictors of job satisfaction, turnover, and burnout, multiple regression (MR) analyses were conducted separately for female and male nurses. Separate hierarchical MR equations were generated for the outcome variables Minnesota Satisfaction Questionnaire, Propensity to Leave, and Burnout. In each equation, the independent or predictor variables were entered in an order that reflected the framework: (1) personal characteristics were entered first as control variables, followed by (2) structural work characteristics such as job status and type of unit, (3) satisfaction with job characteristics (enhancing and limiting), and (4) satisfaction with organizational characteristics as measured on the IOR.

The first hierarchical MR equation examined the relative influence of the predictor variables on female and male nurses' responses on the Minnesota Satisfaction Questionnaire (Table 2).

The model for women explained 43% of the variance; job-enhancing characteristics, satisfaction with supervision, and career future were significant predictors of job satisfaction. The model for males explained 60% of the variance; satisfaction with supervision and career future contributed significantly to overall job satisfaction.

The second hierarchical MR equation investigated the relative contribution of the independent variables to the nurses' propensity to leave their jobs (Table 3). The models explained 50% of the variance in female and male nurses' propensity to leave. Women who were least satisfied with the kind of work they did, their physical work conditions, and their career future were more likely to consider leaving their job. Men who identified less strongly with their hospital of employment and who perceived lack of satisfaction with their career future were more likely to want to leave.

The hierarchical MR model using the outcome variable of burnout is presented in Table 4. Female nurses who reported more family stress; less job-enhancing characteristics; and less satisfaction with kind of work, co-workers, and career future reported greater feelings of burnout. For male nurses, the only significant predictor of burnout was kind of work; lowered satisfaction with the kind of work they were required to perform was significantly related to their reported burnout. The model for female nurses explained 30% of variance in burnout scores. The model for male nurses explained 23% of variance in burnout scores.

Table 2 *Hierarchical Regression Results for Jordanian Female and Male R.N.s (Dependent Variable – Minnesota Satisfaction Questionnaire, General Satisfaction)*

Variables	Female			Male		
	Beta[a]	F	R^2 Change	Beta[a]	F	R^2 Change
Personal Characteristics						
Years as Nurse	-.04	.60		.11	2.87	
Socio-economic Status	.00	.00		-.11	3.22	
Family Stress	.07	1.77	.00	.01	.02	.09*
Structural Characteristics						
Job Status (FT/PT)	.04	.51		.08	1.55	
Medical/Surgical Unit	-.01	.03		.01	.01	
Intensive Care Unit	.01	.02		.00	.00	
Operating Room	.03	.21	.01	-.05	.59	.03
Job Characteristics						
Job-Limiting Characteristics	.03	.35		.04	.36	
Job-Enhancing Characteristics	.12	5.42*	.11***	.15	3.60	.26**
Organizational Characteristics						
Supervision	.22	9.54**		.38	19.04***	
Hospital Identification	.02	.05		.04	.22	
Amount of Work	.05	.55		.02	.04	
Kind of Work	.07	1.16		.05	.21	
Physical Work Conditions	.03	.26		-.01	.01	
Financial Rewards	.02	.10		.01	.01	
Co-workers	.03	.26		-.00	.00	
Career Future	.37	28.47***	.35***	.33	14.27**	.29**
	Adjusted R^2 = .43			Adjusted R^2 = .60		

* $p < .05$ ** $p < .01$ *** $p < .001$ [a]Beta coefficients are from the regression equation with all variables entered.

Table 3 *Hierarchical Regression Results for Jordanian Female and Male R.N.s (Dependent Variable – Propensity to Leave)*

Variables	Female			Male		
	Beta[a]	F	R^2 Change	Beta[a]	F	R^2 Change
Personal Characteristics						
Years as Nurse	.00	.00		-.12	2.45	
Socio-economic Status	.04	.79		.04	.37	
Family Stress	.06	1.61	.03	-.10	1.63	.12**
Structural Characteristics						
Job Status (FT/PT)	-.04	.66		.05	.50	
Medical/Surgical Unit	.06	.95		.14	2.42	
Intensive Care Unit	.05	.78		.07	.60	
Operating Room	-.04	.43	.04	.11	2.04	.04
Job Characteristics						
Job-Limiting Characteristics	-.04	.56		-.05	.44	
Job-Enhancing Characteristics	-.06	1.38	.06**	.05	.32	.10**
Organizational Characteristics						
Supervision	-.06	.84		-.16	2.70	
Hospital Identification	.04	.31		-.22	4.96*	
Amount of Work	.07	1.20		-.03	.14	
Kind of Work	-.15	6.40*		-.03	.08	
Physical Work Conditions	-.24	14.19**		-.06	.51	
Financial Rewards	-.08	1.74		-.10	1.46	
Co-workers	.02	.14		.09	.96	
Career Future	-.44	44.64**	.40**	-.37	14.04***	.33***
	Adjusted R^2 = .50			Adjusted R^2 = .50		

* $p < .05$ ** $p < .01$ *** $p < .001$ [a]Beta coefficients are from the regression equation with all variables entered.

Table 4 *Hierarchical Regression Results for Jordanian Female and Male R.N.s (Dependent Variable – Burnout Questionnaire)*

Variables	Female			Male		
	Beta[a]	F	R^2 Change	Beta[a]	F	R^2 Change
Personal Characteristics						
Years as Nurse	-.05	.76		-.06	.34	
Socio-economic Status	.05	.65		.05	.34	
Family Stress	.13	4.79*	.05**	.06	.34	.04
Structural Characteristics						
Job Status (FT/PT)	.04	.46		.06	.38	
Medical/Surgical Unit	.05	.41		.06	.24	
Intensive Care Unit	-.04	.36		.04	.11	
Operating Room	-.03	.17	.02	-.06	.45	.03
Job Characteristics						
Job-Limiting Characteristics	.01	.06		-.03	.10	
Job-Enhancing Characteristics	-.18	9.00**	.09***	-.10	.76	.06*
Organizational Characteristics						
Supervision	.04	.30		.07	.34	
Hospital Identification	-.01	.00		-.02	.04	
Amount of Work	-.10	1.86		-.19	2.77	
Kind of Work	-.18	6.29*		-.36	6.28*	
Physical Work Conditions	-.09	1.47		.17	2.42	
Financial Rewards	.09	1.49		-.08	.71	
Co-workers	-.15	4.66*		-.12	1.25	
Career Future	-.18	5.14*	.18***	-.19	2.33	.22**
	Adjusted R^2 = .30			Adjusted R^2 = .23		

* $p < .05$ ** $p < .01$ *** $p < .001$ [a]Beta coefficients are from the regression equation with all variables entered.

Discussion

Overall, female nurses in Jordan expressed more satisfaction with their jobs than male nurses. This may be because, in Jordan, nursing continues to be perceived as a female profession and women continue to find it easier than men to obtain employment. Also, female nurses currently hold most of the nursing management positions in Jordan and are more likely to hire women than men in their institutions. Regrettably, this practice is endorsed and even encouraged by physicians and upper levels of management in health-care organizations. However, a recent study by Al-Ma'aitah et al. (1995) on the interpersonal behaviour of Jordanian nursing students showed that male students tend to control and influence interpersonal relationships more than female students. This may result in more male nurses pursuing leadership positions in the future.

It was apparent in all the regression models that satisfaction with job characteristics and organizational characteristics had the most significant impact on all the outcome variables in this study. This lends support to the findings of Irvine and Evans (1995) on the importance of these factors on quality of worklife. It also supports the conceptual model that when nurses (workers) experience a good fit between their needs and their work supplies/demands they report greater job satisfaction and lower levels of turnover and burnout.

Job-enhancing characteristics was a significant predictor of job satisfaction and burnout in female but not male nurses. Female nurses reported fewer opportunities for autonomy, decision-making, and personal growth. These findings may also reflect the powerlessness of Jordanian nurses. Powerlessness has been reported as an important contributor to burnout (Kean, Ducette, & Adler, 1985), while autonomy has been found to be a key contributor to job satisfaction (McCloskey, 1990).

Lack of satisfaction with supervision received was a significant predictor of job satisfaction in both women and men. Because of limited opportunities for staff development and further education, many supervisors are promoted on the basis of length of service. These results indicate that nurses in supervisory positions should be offered more opportunities to develop their management skills. There is a wide gap between nursing knowledge and practice and between administrators and nurses in Jordanian hospitals. Nurses in the higher hospital positions tend to be less well educated and to have been trained on a disease-focused model. This supervisory issue, which was immediately

apparent in this investigation, affects job satisfaction for both female and male nurses. In their literature review, Frisina, Murray, and Aird (1988) suggest that the factor of respect and recognition plays a greater role in job satisfaction than pay, workload, and so on. It can also be readily supplied by an astute and well-prepared supervisor.

Both female and male nurses expressed concerns about their career future, a powerful predictor of job satisfaction and propensity to leave. This supports the findings of other investigations that opportunities for promotion and career advancement are important predictors of job satisfaction (Blegen & Mueller, 1987; Frisina et al., 1988). In Jordan there is no clinical ladder for employment advancement, and for the most part the baccalaureate nurse shares equal status with the diploma-prepared nurse. This is an issue that requires careful review and evaluation, as Al-Ma'aitah (1989) also found that Jordanian baccalaureate nurses working in hospitals were more likely to choose to leave nursing than those practising in other settings.

For male nurses, lack of satisfaction with their hospital of employment was a significant predictor of propensity to leave — that is, nurses who felt no loyalty towards their hospital (hospital identification) of employment (i.e., felt that it treated its employees poorly, was a poor place to work, and discouraged them from doing their best) were more likely to leave. Retaining men in the profession will require attention to men/employer relations now and in the future.

Physical work conditions and kind of work performed were significant predictors of turnover among the female nurses, who were more likely to consider leaving if their physical work conditions were unpleasant and if they were dissatisfied with the kind of work they were required to perform. Type of work was a significant predictor of burnout for both men and women. In Jordan, nursing practice is not controlled by a nursing association. Each institution sets its own policies on the role and practice of nursing, and it may change these policies at any time to meet its own needs. Because such changes are ordered at the highest levels, nurses at the bedside have limited opportunity to influence the kind of work they are required to perform.

In view of the lack of clarity and consensus on the role of nurses, the many levels of nursing, and the negative image of nursing, we would support the recommendations of Khalaf (1994), that hospital administrators in Jordan be encouraged to develop standards for nursing practice.

Implications for Nursing in Jordan

Although there are many similarities between Jordanian female and male nurses in job satisfaction, propensity to leave, and burnout, there are also important differences. In both groups there is obviously an urgent need for more career opportunities, as well as for increased opportunities for autonomy and personal growth. Improved leadership on the part of supervisory staff could further enhance job satisfaction among nurses.

In conclusion, if hospitals in Jordan are to retain male staff nurses, senior personnel will have to examine the factors that lead men to identify less than women with their place of work. If this issue is not addressed, it is likely that turnover among men will remain high. Studies from other countries have suggested that as more men are employed in nursing, the complexion and thrust of the profession will change (Cyr, 1992; Garvin, 1976) and that men may help to achieve more power, autonomy, and professionalism in nursing (Cyr; Davis-Martin, 1984; Silver & McAtee, 1972). Such changes could also occur in Jordan.

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Student and Faculty Learning Styles in a Canadian and a Chilean Self-Directed, Problem-Based Nursing Program

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Une étude descriptive comparative a été menée afin d'identifier et de comparer les styles d'apprentissage chez les enseignants et les étudiants de premier cycle œuvrant dans le cadre de 2 programmes en sciences infirmières autogérés (AAG) et axés sur des problèmes (AAP). Dans un programme en sciences infirmières d'une université canadienne, le Kolb LSI-1985 a été appliqué auprès de 94 étudiants génériques de premier cycle, 63 étudiants à l'étape post-i.a. et 22 membres du corps enseignants. Une traduction espagnole a été réalisée par 37 étudiants en sciences infirmières, premier cycle, et 13 enseignants d'une université chilienne. Une analyse de variance des notes moyennes de groupes révélait d'importants écarts parmi les 4 groupes d'étudiants utilisant un mode d'apprentissage axé sur l'expérience active. Des tests ultérieurs ont confirmé que les étudiants chiliens sont moins portés sur l'apprentissage actif que leurs enseignants ou les étudiants canadiens. Ceci constitue une importante découverte en ce qui a trait à la préparation des étudiants à prendre en main leur propre apprentissage. Comparativement aux enseignants chiliens, les enseignants canadiens ont récoltés des scores supérieurs sur le point de la conceptualisation abstraite, ce qui génère des implications concernant le développement, chez le enseignants, de compétences d'éducateurs AAG / AAP.

A descriptive comparative study was conducted to identify and compare/contrast the learning styles of nursing faculty and entry-level students in 2 self-directed (SDL), problem-based (PBL) nursing programs. The Kolb LSI-1985 was administered to 94 first-year generic students, 63 post-R.N. students, and 22 faculty members in a Canadian university nursing program. A Spanish translation was completed by 37 incoming nursing

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students and 13 faculty members in a Chilean university. One-way ANOVA analysis of group mean scores showed significant differences among the 4 student groups in the active experimentation learning mode. Post hoc tests confirmed that Chilean students are less likely to be active learners than their teachers or Canadian students, a finding of significance in preparing students to assume self-direction of their learning. Canadian faculty had higher abstract conceptualization scores than Chilean faculty, which has implications for faculty development of educator roles for SDL/PBL.

Introduction

A global challenge for nursing education is to prepare nurses to assume greater autonomy in decision-making and leadership in health care. Nurses need to understand not only their personal learning styles, but also those of their clients in order to provide client-centred care. Proponents of theory-based and evidence-based practice believe that more thoughtful, competent care will be the outcome of a more theoretical approach to nursing education (Meleis & Price, 1988). Changes in the education of future nurses should likewise be based on sound evidence and strategies, and the complexity of educational change must be addressed (Fullan, 1982).

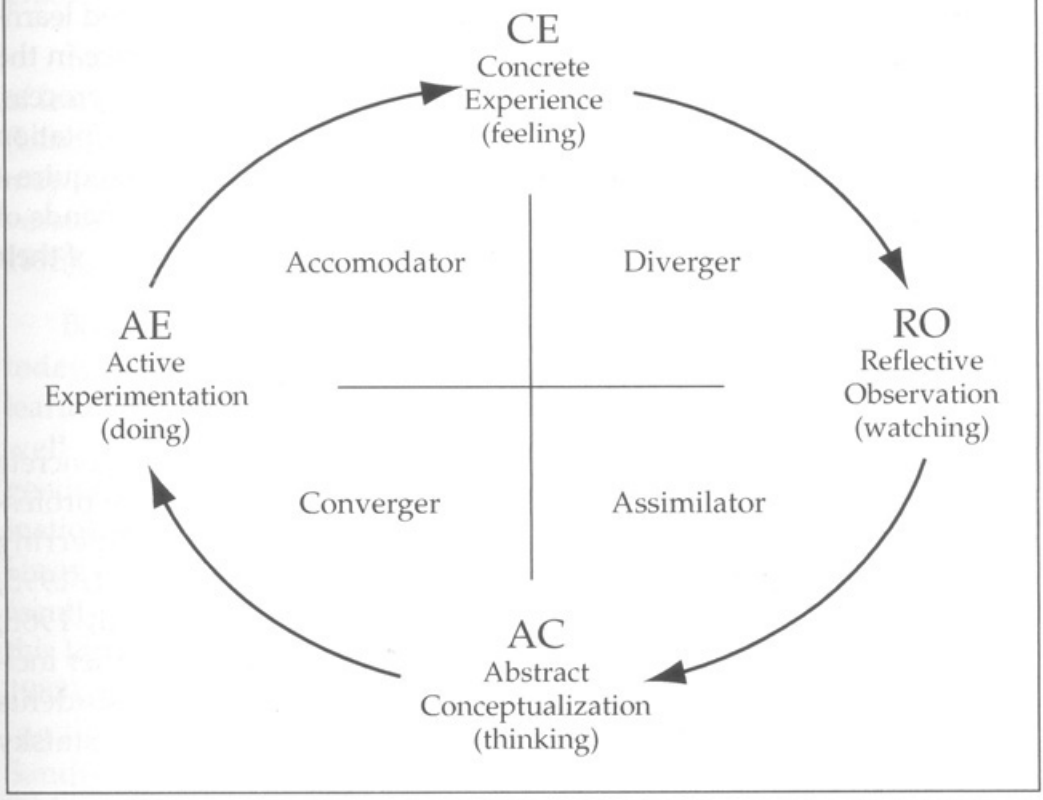
The McMaster University School of Nursing has worked with the nursing program at the Universidad de la Frontera (UFRO) in Temuco, Chile, to support curriculum reform in a learner-centred, self-directed (SDL), small-group and problem-based (PBL) approach to the education of health professionals. Adapting the small-group SDL/PBL approach in international settings has brought about renewed discussion on the readiness of nursing students to assume self-direction in learning. This paper will discuss differences and similarities in learning styles in Canadian and Chilean nursing students and faculty, and the implications for SDL.

Theoretical Framework

Kolb's (1984) Experiential Learning Theory is based on a "holistic framework for viewing adult development in learning in which critical linkages of education, work and personal development are emphasized. Learning is viewed as life-long process of adaptation in which affective experience plays a central role" (Holbert & Thomas, 1988, p. 31). Information is transformed through four learning modes: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Figure 1). The Learning Styles Inventory (LSI-1985) (Kolb, 1985) classifies learning preferences as active or reflective and as concrete or abstract. Learners are classified as accommodators, diverg-

ers, convergers, or assimilators based on self-reported competencies (scores) in the four learning modes (Figure 1). Preferred Learning Cycles reflect the order in which learners process information through the four learning modes.

Figure 1 *Learning Cycle and Learning Styles (Kolb, 1984)*



Student-centred SDL is an androgogical approach in which learners take an active role in planning, implementing, and evaluating their own learning and that of their peers (Barrows, 1985; Barrows & Tamblyn, 1980; Knowles, 1975, 1986). Self-assessment of personal learning styles is an initial step in helping students to recognize their own strengths and needs in order to develop a personal learning plan (Tompkins & McGraw, 1988) and to identify and use a variety of learning resources and strategies complimentary to their personal style (College of Nurses of Ontario, 1996). They may select learning strategies with which they are comfortable, or they may challenge themselves with strategies different from their usual style. In a small-group learning format, learners will usually have different preferred learning styles. This dissonance in approach to learning may cause frustration until students come to understand that each person learns differently.

Once learning styles are identified, students come to recognize the value of other approaches to learning. Identifying their own and their students' preferred learning styles also helps educators to become aware of when their preferred teaching style is not understood (Hunt, 1987).

While no inherent hierarchical value is assigned to any style, Kolb (1984) has suggested that individuals are attracted to a profession whose learning environments are compatible with their preferred learning style, and that these styles are accentuated with experience in the profession. He further asserts that learning is a developmental process, and that in order to function effectively and facilitate career adaptation in complex and changing professional environments, learners require a balance of learning styles. To keep pace with the changing demands of the profession, practitioners need to be life-long learners, aware of their own learning styles and preferences (Callin, 1996; CNO, 1996).

Literature Review

Some studies report nursing students to have predominantly concrete learning styles, consistent with assertions that human-service professionals have concrete, people-oriented learning styles, preferring "doing" to "theorizing" (Cavanagh, Hogan, & Ramgopal, 1995; Laschinger, 1990, 1992; Laschinger & Boss, 1989; O'Kell, 1988; Thompson & Crutchlow, 1993). Others, however, report a higher incidence of abstract styles, particularly among baccalaureate students (Joyce-Nagata, 1996; Ridley, Laschinger, & Goldenburg, 1995; Stutsky & Laschinger, 1995).

While Kolb (1984) suggests there is a developmental component to learning styles, nursing studies have reported inconsistent findings. Stability of learning styles over the course of nursing education programs has been reported for both baccalaureate (Wells & Higgs, 1990) and diploma students (Rakoczy & Money, 1995). Jambunathan (1995) found that reflective assimilator junior students became more active accommodators as they progressed through their program. This contrasts with Highfield's (1988) earlier finding that the assimilator style persisted into senior years of study. Daly (1996) found that nurse managers moved from concrete-divergent mode towards abstract-convergent mode with increased education, a finding that may be relevant for post-diploma programs.

Attempts have been made to identify the characteristics of students likely to have difficulty in their nursing studies. Remington and Kroll

(1990) report a predominance of concrete, particularly diverger, styles among students identified as "high risk." Haislett, Hughes, Atkinson, and Williams (1993) found that academically successful baccalaureate students were most likely to be assimilators and divergers, with accommodators being most at risk for academic difficulty. Other researchers have not found a significant relationship between learning style and academic performance (Cranston & McCort, 1985; DeCoux, 1990; Merritt, 1983).

Students in baccalaureate programs may exhibit more of a balance of learning styles than their counterparts in diploma nursing programs (Laschinger & Boss, 1989), and recent studies suggest that the LSI-1985 may classify more nursing students as abstract learners than an earlier version of the instrument (Ridley et al., 1995; Stutsky & Laschinger, 1995).

Because of the complexity and rate of change in work environments today, nursing students should be encouraged to explore a variety of learning approaches (Jambunathan, 1995; Rakoczy & Money, 1995). As well, the increasing diversity of nursing students in terms of age, gender, and prior nursing and learning experiences calls for a re-examination of learner needs (Cavanagh et al., 1995; Cowman, 1995; Griggs, Griggs, Dunn, & Ingham, 1994). It is therefore important for nursing faculty to be aware of their own styles and those of their students, as this influences their selection of teaching strategies (Laschinger & Boss, 1983). Nurse educators may place greater emphasis on abstract learning than general nursing populations (Duff, Laschinger, Arguello, Sandino, & Samora, 1995; Laschinger, 1986; Marcinek, 1983). International studies suggest that differences in preferred nurse teacher learning styles and practices may reflect cultural differences (Duff et al., 1995; Duff, Johnston, & Laschinger, 1992; Wubbels & Levy, 1991).

In summary, many studies with nursing students and faculty show that concrete learning styles are preferred by nurses, although there may now be a trend towards greater preference for abstract learning styles either due to measurement (LSI-1985) or as a reflection of the complex nature of nursing environments and practice.

Self-directed, small-group learning is new to many students and may be inconsistent with their learning experiences or preferred learning styles. However, there has been limited study of student readiness for SDL (Crook, 1985). Some researchers even report a decline in orientation towards SDL and collaborative learning as students progress through their studies (Montecinos, Illesca, & Yanez, 1993; O'Kell, 1988).

No international comparative studies of learning styles in SDL nursing programs were found in the literature. The present study was designed to address this gap in the literature and to strengthen understanding of SDL in nursing.

Purpose of Study

The purpose of this study was to identify and compare/contrast the learning styles of nursing faculty and students entering a Canadian and a Chilean university nursing program, based on small-group and SDL methodology.

Research Hypotheses

A number of questions arose regarding the relationships between learning styles and students and faculty in SDL/PBL curricula, which led to the following hypotheses:

1. Students selecting an SDL/PBL university nursing program will prefer reflective and abstract learning styles.
2. Post-diploma R.N. students will prefer active experimentation more than generic students.
3. Faculty will emphasize reflective observation and abstract conceptualization to a greater degree than their students.
4. Preferred learning styles of Canadian students and faculty will differ from those of their Chilean counterparts.

Design

A descriptive comparative survey was undertaken to determine learning styles of nursing faculty and incoming students in a Canadian and a Chilean university nursing program. Students in the Canadian B.Sc.N. program enter the program from one of three applicant pools: those applying to the 4-year generic program directly from high school (OAC), those with other qualifications (non-OAC), and registered nurses applying to the 2-year post-diploma program (post-R.N.). While the OAC applicants are offered admission to the program based solely on grades, the non-OAC and post-R.N. applicants participate in a selection process designed to address readiness to undertake self-directed study in a small-group, problem-based curriculum (Brown, Carpio, & Roberts, 1991; Carpio & Brown, 1993). In the first semester of both the generic and post-diploma programs, students are introduced to SDL/PBL in small-group tutorials facilitated by faculty tutors.

At the Universidad de la Frontera, as in all public universities in Chile, applicants are admitted to the nursing program based on grades obtained on the nation-wide pre-university entrance examination. At the time of the study, the first small-group, student-centred component of the nursing curriculum was introduced in the third semester following two semesters of a traditional program of non-nursing course work, common to all health sciences students.

The study to identify the learning styles of incoming students was approved by the review bodies at each site. All incoming students at both universities completed the LSI-1985 as part of their in-class orientation to SDL/PBL in their respective program. At the end of the orientation sessions, students were invited to participate in the study. They were assured of the anonymity of their responses and were asked to complete a short demographic questionnaire and to submit their LSI scores in a sealed envelope to their faculty tutors at the end of class.

The Canadian sample comprised 157 students: 63 post-R.N. students (79% of the class) and 94 students in the first year of the generic program (88% of the OAC students and 75% of the non-OAC students). The student sample was predominantly (91%) female. Sixty-nine first-year students were under 20 years of age and 49 students (most of whom were post-R.N. students) were over 29 years of age. Sixty-one students reported SDL as a new experience. Fifty-five students reported experience with SDL in high school, 20 reported experience with SDL in university, and 21 reported exposure to SDL in community college nursing programs. While 87 reported no experience with PBL, 38 reported experience with PBL in high school, 23 in community college, and 21 in university.

A convenience sample of 22 nursing faculty also completed the LSI. All were women teaching in the first year of the program, and all but one had been a tutor in the program for at least 1 year prior to the study.

The Chilean sample comprised 36 (97%) students enrolled in their first semester of nursing studies and 13 female nurse educators. The student group was predominantly female (86.5%), and the mean age was 21.75 years. None of the Chilean students reported prior experience with SDL or PBL. All the Chilean faculty members had participated in preparatory workshops for orientation to the role of tutor in student-centred SDL/PBL education, though only five had implemented the role prior to the study.

Instrumentation

The Learning Style Inventory (LSI-1985) asks respondents to complete 12 statements about learning by rank ordering sentence endings representative of the four learning modes depicted in experiential learning theory. Scores are generated for each of the learning modes, and the extent to which a learner prefers abstract learning over concrete experience and active versus reflective learning are also calculated. Preferred learning styles are then determined based on these scores. Internal consistency of the instrument has been tested and found to be acceptable (Cronbach's coefficient alpha 0.73–0.88 and split-half reliability Spearman-Brown 0.71–0.85) (Smith & Kolb, 1986), and it continues to be a widely used instrument. Numerous studies have shown learning style preferences of various occupational and student groups consistent with the theoretical expectations, supporting the construct validity of the instrument.

A Spanish version of the LSI-1985 (Duff et al., 1995) was administered in Chile following review of the translation/back translation according to asymmetrical translation methodology (Jones, 1987; Phillips, Luna de Hernandez, & Torres de Ardon, 1994) by bilingual members of the investigator team at both universities.

Data on participants' age, gender, and prior experience with SDL and PBL were collected using a questionnaire designed for the study.

Sample

All students entering the SDL/PBL component of their respective nursing curriculum in 1996 completed the LSI-1985 as part of their in-course orientation. Only those students who consented to participate in the study were included in the sample. A convenience sample of faculty members teaching entry-level courses also completed the LSI-1985. Following data entry for the study, completed inventories were returned to participants for use in developing personal learning plans.

Findings

Group mean scores and standard deviations in the four learning modes plus the combined scores (concrete-abstract and active-reflective) were calculated for the four student and two faculty groups. Inferential analysis of interval data compared the student group mean scores using one-way ANOVA. Post hoc multiple comparisons were then made using the group mean scores of each pairing of the student groups.

T-test comparisons were made between faculty groups and also between students and faculty at each institution. Preferred learning styles of students and faculty at each institution were identified based on individual LSI-1985 scores, and the frequency distributions of the four learning styles were compared using Chi-square.

In this study, reliability coefficients of the English version LSI-1985 subscales ranged from .81 to .83 using Cronbach's coefficient alpha and from .79 to .85 using Guttman split half. The Spanish version subscales ranged from .67 to .79 (Cronbach'a coefficient alpha) and from .62 to .73 (Guttman split half).

Student-Group Learning Cycles

Mean group scores illustrate that all four student groups placed the greatest emphasis on active experimentation (AE) or "doing" mode, with the Chilean students scoring lowest and non-OAC the highest (Table 1). Based on group mean scores in the four learning modes, the OAC students preferred a learning cycle of active experimentation-abstract conceptualization-reflective observation-concrete experimentation (AE-AC-RO-CE). The non-OAC, post-diploma, and Chilean students all preferred active experimentation-reflective observation-abstract conceptualization-concrete experience (AE-RO-AC-CE). First-year Canadian students, both OAC and non-OAC, preferred active learning more than Chilean students (one-way ANOVA $F_{3,154} = 3.080$, $p = 0.029$). All groups placed least emphasis on the concrete experience (CE) "feeling" mode. The Chilean student group had the highest mean group score, the OAC group the lowest, though the differences did not reach a level of statistical significance. While the non-OAC, post-R.N., and Chilean students all preferred reflective observation (RO) over abstract conceptualization (AC), the OAC group had the highest AC scores. Post hoc multiple comparisons using Tukey's HSD and LSD confirmed that the Chilean students were less active learners than both the non-OAC and OAC student groups ($F = 3.6065$ $p_{(LSD)} = 0.007$ $p_{(HSD)} = 0.031$; $F = 3.6065$ $p_{(LSD)} = 0.013$ $p_{(HSD)} = 0.060$, respectively).

Turning to the two combined scales that indicate preferences for abstract (AC-CE) and active (AE-RO) learning, the OAC group had the highest mean abstract learning score and the non-OAC group had the highest active learning mean score. The Chilean students had the lowest mean scores on both scales, though none of the inter-group differences reached a level of statistical significance. All four student groups exhibited a more balanced learning style type than those reported for community college nursing students (Rakoczy & Money, 1995).

Table 1 *Mean LSI-1985 Scores of Student Groups*

Group	*n*	CE $\bar{x}$ (SD)	RO $\bar{x}$ (SD)	AC $\bar{x}$ (SD)	AE $\bar{x}$ (SD)	AC-CE $\bar{x}$ (SD)	AE-RO $\bar{x}$ (SD)
OAC	73	25.4	29.5 (8.0)	31.1 (8.0)	34.3 (7.7)*	5.7 (14.7)	4.7 (13.1)
Non-OAC	21	25.8	30.0 (7.3)	28.3 (6.4)	36.1 (7.8)*	2.5 (11.6)	6.0 (12.7)
Post-R.N.	63	26.4	30.3 (7.2)	29.7 (7.3)	33.4 (7.0)	3.3 (12.5)	3.3 (11.6)
Chilean	36	29	30.2 (5.1)	30.0 (6.5)	30.8 (4.9)*	1.2 (10.8)	0.7 (8.6)

* $F_{3,154} = 3.080$, $p = 0.029$

Post-hoc Comparisons (Tukey's)

OAC vs. Chilean	$F = 3.6065$,	$P_{(LSD)} = 0.013$*	$P_{(HSD)} = 0.060$*
Non-OAC vs. Chilean	$F = 5.3254$,	$P_{(LSD)} = 0.007$*	$P_{(HSD)} = 0.031$*

Table 2 *Learning Style Distribution among Student Groups as Determined by LSI-1985*

	OAC		Non-OAC		Post-R.N.		UFRO	
Learning Style	*n*	%	*n*	%	*n*	%	*n*	%
Diverger	11	15	6	28.6	13	20.6	14	38.9
Accommodator	20	27.5	6	28.6	17	27	8	22
Converger	20	27.5	6	28.6	15	23.8	4	11.1
Assimilator	22	30	3	14.3	18	28.6	10	27.8

$Chi^2 = 11.37$, $df = 9$, $p = 0.25$

(continued on next page)

Table 2 (cont'd)

	OAC		Non-OAC		Post-R.N.		UFRO	
Learning Style	*n*	%	*n*	%	*n*	%	*n*	%
Concrete	31	42	12	57	30	48	22	61
Abstract	42	58	9	43	33	52	14	39
$Chi^2 = 3.96$, $df = 3$, $p = 0.27$								
Active	40	55	12	57	32	51	12	33
Reflective	33	45	9	43	31	49	24	67
$Chi^2 = 5.11$, $df = 3$, $p = 0.16$								

Table 3 *Mean LSI-1985 Scores of Faculty Groups*

Group	*n*	CE $\bar{x}$ (SD)	RO $\bar{x}$ (SD)	AC $\bar{x}$ (SD)	AE $\bar{x}$ (SD)	AC-CE $\bar{x}$ (SD)	AE-RO $\bar{x}$ (SD)
Canadian	22	26.4 (6.5)	27.1 (9.8)	34.1 (6.1)*	32.3 (7.5)	7.7 (8.9)**	5.1 (15.0)
Chilean	13	29 (4.4)	27.0 (5.7)	28.5 (5.1)*	35.5 (7.8)	0.5 (8.0)**	8.5 (12.7)

*$t_{33} = 2.83$, $p = .008$; **$t_{33} = 2.75$, $p = .009$

Individual Student Learning Style Preferences

Based on scores obtained in each of the learning modes, individual learning style preferences were determined and the frequencies of learning style preferences calculated for each group (Table 2). Analysis of distributions among the four student groups showed no statistically significant differences for learning styles, proportion of concrete versus abstract learners, or distribution of reflective and active styles. However, the Chilean students were less likely to be abstract learners than their first-year Canadian counterparts ($Chi^2 = 8.12$, $df = 3$, $p = .04$).

The abstract styles of assimilator and converger were preferred by slightly more than half the OAC and post-R.N. students, a distribution similar to that reported by Ridley et al. (1995) and Stutsky and Laschinger (1995). The assimilator style was preferred by less than one third of each group, in contrast to Highfield's (1988) sample of baccalaureate students, who were predominantly concrete assimilators.

Concrete learning styles were selected by fewer than half the Canadian students in each group. The accommodator style was preferred by nearly one quarter of each student group. The diverger style was the least common style among the OAC and post-R.N. students but was the most frequently preferred style for the Chilean students (38.9%).

Active learning is characteristic of the accommodator and converger styles preferred by slightly more than half the Canadian students and one third of the Chilean students. While no significant between-group differences were found in the overall distribution of active styles, the Canadian students were twice as likely as the Chilean students to be abstract convergers.

Cavanagh et al. (1995) suggest that prior educational experiences shape the perceptions and attitudes of learners. The non-OAC group scores were compared in turn with the OAC students (with whom they shared the experience of having no prior nursing education) and then with the post-R.N. group, who also had prior post-secondary education and "life experience" beyond that of the OAC group. Because the non-OAC and post-R.N. students participate in a rigorous selection process, it was thought they might share characteristics different from the OAC and Chilean students, who are admitted solely on the basis of academic performance. However, the post-R.N. students did not differ from the younger and/or non-nurse students. This contrasts with the findings of Cavanagh et al. and Griggs et al. (1994), though it is consistent with Highfield's (1988) findings with generic and post-R.N. students.

Overall, first-year Canadian students (OAC plus non-OAC) were more likely to be convergers and less likely to be divergers than the Chilean students. However, the small size of the non-OAC sample, plus the lack of statistical differences among the OAC and post-R.N. student groups, prevented any conclusions from being drawn.

Faculty Learning Cycles

Based on group mean scores in the four learning modes (Table 3), the learning cycle preferred by Canadian faculty was abstract conceptualization-active experimentation-reflective observation-concrete experience (AC-AE-RO-CE), while that of the Chilean faculty was active experimentation-concrete experience-abstract conceptualization-reflective observation (AE-CE-AC-RO). T-test comparisons showed that Canadian faculty had significantly higher abstract conceptualization scores ($t_{33} = 2.83$, $p = .008$) and AC-CE mean group scores ($t_{33} = 2.75$, $p = .009$) than their Chilean counterparts, indicating a greater emphasis on abstract learning.

Faculty Learning Style Preferences

Frequencies of learning style preference of individual faculty were also calculated (Table 4). The learning style most frequently selected by

Table 4 *Learning Style Distribution among Faculty Groups*

	Canadian		Chilean	
Learning Style	*n*	%	*n*	%
Diverger	4	18.2	3	23.1
Accommodator	3	13.6	5	38.4
Converger	10	45.5	3	23.1
Assimilator	5	22.7	2	15.4
$Chi^2 = 2.627$, $df = 3$, $p = 0.453$				
Concrete	7	31.8	8	61.5
Abstract	15	68.2	5	38.5
$Chi^2 = 2.947$, $df = 1$, $p = 0.086$				
Active	13	59.1	8	61.5
Reflective	9	40.9	5	38.5
$Chi^2 = 0.02$, $df = 1$, $p = 0.886$				

Canadian faculty (45.5%) was that of abstract converger, while Chilean faculty (38.4%) were concrete accommodators. Fully 61.5% of the Chilean faculty preferred concrete styles, compared to 31.8% of the Canadian sample. While abstract styles accounted for fully 68.2% of the Canadian faculty and only 38.5% of the Chilean faculty, no significant between-group differences were found ($Chi^2 = 2.947$, $p = .086$).

Active learning styles (accommodator and converger) characterized 59.1% of the Canadian faculty and 61.5% of the Chilean faculty. Reflective learning styles were preferred by 40.9% of Canadian and 38.5% of Chilean faculty. Thus, while the Chilean faculty were twice as likely to be concrete learners than their Canadian counterparts, the groups were similar in their preference for active learning styles.

Comparison of Faculty and Student Learning Styles

A final step in the analysis of data was comparison of learning styles between faculty and student groups at each institution. There was no significant difference between Canadian students and faculty on mean CE, RO, or AE scores; however, the mean faculty AC score was significantly higher than that of students ($t_{178} = 2.35$, $p = .020$), consistent with the expectation that faculty place greater emphasis on abstract conceptualization than students and beginning practitioners.

Chilean faculty had higher AE scores ($t_{48} = 2.53$, $p = .015$) than their students, and were more active learners ($t_{48} = 2.50$, $p = .016$), a pattern consistent with other reported findings that beginning practitioners are less active learners than experienced nurses (Haislett et al., 1993). However, Chi-square comparisons of the distribution of student and faculty learning style preferences at each institution showed no significant differences between the groups, consistent with the findings of other studies with faculty, students, and clinicians (Hodges, 1988; Joyce-Nagata, 1996).

Discussion

This is the first international study examining the learning styles of Canadian and Chilean nursing students in student-centred, self-directed programs.

The hypothesis that students entering an SDL/PBL curriculum would prefer reflective and abstract learning modes was not supported by the findings. Fewer than one third of students in each group demonstrated the high RO and AC scores characteristic of the assimilator style.

While the mean group AC scores of the OAC and Chilean students were slightly higher than those reported for junior and senior Canadian diploma nursing students (Rakoczy & Money, 1995), the group mean RO scores of all study groups were lower. The overall proportion of first-year students who were classified as abstract learners (54.3%) was similar to those reported by others (Ridley et al., 1995; Stutsky & Laschinger, 1995), though higher than that reported by Cavanagh et al. (1995). The predominance of abstract over concrete learning styles for the post-R.N. students differs from the reported findings of previous studies (Laschinger & Boss, 1983), as does the preference of abstract styles in the OAC sample (Cavanagh et al.). The preferred learning cycle selected by all but the OAC group is consistent with Rakoczy and Money's sample.

Post-R.N. students did not have higher active experimentation (AE) scores than basic students. The high AE scores for the three Canadian student groups are consistent with findings of prior reports that nursing students are active learners (Laschinger, 1986; Rakoczy & Money, 1995). The post-R.N. group had a lower AE mean score than both the OAC and non-OAC groups, though the differences did not reach a level of statistical significance. The predominance of the diverger style among the post-R.N. students contrasts with O'Kell's (1988) report of converger and accommodator styles among practising nurses. Compared with a sample of nurse managers (Daly, 1996), fewer post-R.N. students selected abstract and active learning styles. This may be reflective of the trend for younger nurses to return to school prior to having acquired managerial experience, or it may indicate that the transition to learner from practitioner results in decreased self-confidence (Callin, 1996).

The third hypothesis, that faculty teaching an SDL/PBL curriculum have high reflective observation (RO) and abstract conceptualization (AC) scores, was supported in part. The group mean RO scores were similar in both groups. The Chilean faculty members placed greater emphasis on the CE and AE modes than their Canadian counterparts, who in turn placed greater emphasis on abstract conceptualization.

There were differences between the Canadian and Chilean students. The preference of reflective learning by the Chilean students is consistent with findings that suggest nursing students are more reflective initially and become more active as they progress through their studies (Laschinger, 1986). The lower active learning (AE) scores of the Chilean student group are also more consistent with the traditional student role of passive learner, the predominant model in Chilean high-

school education. One of the challenges to educational change is to create a climate of faith and trust in a new system (Fullan, 1982). Although only a minority of the Canadian students had prior experience with PBL, several reported that SDL was not new to them.

The Canadian faculty group were predominantly (68.2%) abstract learners, similar to the reported styles of American (Marcinek, 1983) and English (Hodges, 1988) nursing faculty. The majority of Chilean faculty (61.5%) were concrete learners, consistent with reported findings with both Chinese (Duff et al., 1992) and Nicaraguan (Duff et al., 1995) nurse educators.

This study was limited in the conclusions that could be drawn due to the small sample size, although the response rates in each student group were satisfactory. A concern raised by the Chilean faculty members, which this study does not directly address, is the influence of the selection process on the level of motivation of students for SDL. No inferences can be drawn regarding the professional or academic success of students with differing learning styles, or of the stability of learning styles. Such work is necessary before curriculum changes can be initiated.

Conclusions

The LSI-1985 identified learning style preferences consistent with experiential learning theory and observations of diversity among students and peers. Faculty who teach in the small-group tutorial format report that diversity of student learning styles is one of the challenges in SDL/PBL.

The samples at both institutions were drawn from among the faculty who work with entry-level students. Most of these faculty members are also involved in clinical teaching, which may account for high AE scores in both groups. Further study is needed to explore whether differences between the two faculty groups may be reflective of differences in basic cultural values, or in the educational systems that both shape and reflect the role expectations and behaviours of teachers and students. Furthermore, at the time of the study, very few of the Chilean faculty members had pursued formal graduate education in nursing, which may have also influenced the lower abstract conceptualization scores compared with their Canadian counterparts, all of whom had graduate degrees in nursing.

The findings of the present study are consistent with those reported by other studies with nursing students, showing a diversity among stu-

dents and faculty in any given program. Since students entering these programs possess varied learning styles, faculty should consider providing a variety of learning experiences to help learners adjust to SDL and PBL. By completing the LSI-1985 as part of their orientation to SDL, the students became aware of the variety of learning strategies they can employ in developing their individual learning plans to meet course objectives in ways that suit their own learning style.

Helping learners to identify their own preferred learning styles will facilitate the development of independent and group learning skills. Faculty likewise need assistance in learning to identify, value, and respond to the diversity among students, and to engage in active, self-directed professional development to review and revise their own teaching strategies. A theoretical framework for identifying and analyzing different approaches to learning will support the move to student-centred, self-directed curricula for both faculty and students.

Based on the findings of this study, the LSI-1985 appears to be a valid instrument for use in an international study of learning styles of nursing students, in that it identified differences among learners consistent with the experiential learning theory upon which it is based. Future research will include further testing of the Spanish version of the LSI-1985, cross-cultural comparisons with other nursing programs, and a longitudinal study of learning styles.

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An Evaluation of WHA Resolution 45.5: Health Human Resource Implications

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L'Assemblée mondiale de la santé a approuvé le règlement AMS 45.5 en 1992. L'article qui suit fait état des résultats d'une évaluation de la mise en pratique de ce règlement par le biais d'une technique de sondage. Un total de 150 états membres de l'OMS on répondu, soit un taux de réponse de 79%. Les résultats indiquent que les progrès les plus importants accomplis dans le monde relèvent du domaine de l'éducation. Bien que les données indiquent la réalisation de progrès à l'échelle des pays, des actions doivent être entreprises pour renforcer la pratique infirmière et l'exercice des sages-femmes pour que ces ressources rentables puissent jouer un rôle décisif quant à l'amélioration de l'étendue et de la qualité des services, notamment dans un contexte où ceux-ci s'adressent aux populations les plus démunies.

The World Health Assembly approved resolution WHA45.5 in 1992. This paper reports the findings of an evaluation of the implementation of this resolution using a survey technique. A total of 150 WHO Member States responded, for a 79% response rate. Findings suggest that the greatest strides worldwide have been made in education. While the data show that progress has been made at the country level, far more action is needed to strengthen nursing and midwifery if these cost-effective resources are to play a decisive role in improving the extent and quality of services, especially as delivered to people in the greatest need.

World Health Assembly resolutions are passed by World Health Organization Member States in order to provide direction and shape policy internationally. Resolutions are usually developed by an executive committee of WHO based on needs or issues identified by Member States and/or global advisory groups. Within the WHO structure, Member States belong to one of six geographically contiguous regions: Africa, the Americas, Eastern Mediterranean, Europe, South-East Asia, and Western Pacific. In its very first session, in 1948, the WHA passed resolution WHA1.46 pointing out the need to increase the numbers of nurses and establish roles that would result in more appropriate use of nursing care in many countries (World Health Organization [WHO], 1948). Since then, several resolutions directed at strengthening the role of nursing and midwifery have received the unanimous support of Member States. To date there are no reported attempts to evaluate the implementation of resolutions. At the 45th WHA in 1992, Member States once again addressed the issues associated with nursing and midwifery resources. This resolution (WHA45.5) specifically addressed the continuing shortage of nursing and midwifery personnel and the urgent need to recruit, retain, and educate numbers of personnel sufficient to meet present as well as future community health needs.

The research was designed to determine the extent to which WHO Member States implemented elements of resolution WHA45.5 in the 2 years after the resolution was passed. The specific research question, derived directly from the elements of the resolution, was: To what extent, since 1992, have Member States: (1) completed assessment of nursing and midwifery resource needs, utilization, and roles and func-

tions; (2) strengthened nursing and midwifery education; (3) ensured nursing's contribution to health policy; (4) enacted legislation to support nursing and midwifery; (5) implemented strategies to strengthen management and leadership capabilities; (6) improved working conditions; and (7) ensured an adequate number of nursing and midwifery budgeted posts? This paper describes the key findings related to implementation of the resolution.

Background

In almost every country of the world, nursing and midwifery services are the backbone of the health-care system (World Bank, 1993). There are increasing demands for accessible and affordable quality health care throughout the world. At the same time, the incidence of disease and disability worldwide is staggering (WHO, 1995). Many national health systems are stretched to the limit, and substantial increases in the resources allocated to health are unlikely to be forthcoming (World Bank). Nurses and midwives have the potential to provide cost-effective care and thus to make a major contribution to the easing of many of these health problems. Indeed, *World Development Report 1993* (World Bank) notes that the most cost-effective way to provide essential care is through a combination of public health strategies and a package of essential primary care services, most of which can be delivered by nurses and midwives.

Health human resources (HHR) play a critical role in the protection, promotion, and restoration of the physical and mental well-being of populations. Use of these resources in ways that make the greatest contribution to improved health depends on the "effective deployment and utilization of human resources" (Ozcan, Taranto, & Hornby, 1995, p. 306). Given the efficacy of nursing to meet health needs, surprisingly little is known about how scarce nursing resources are managed in various countries throughout the world.

Methods

Study Design

The study used a cross-sectional survey design for the collection of quantitative and qualitative data. The study was conducted between November 1993 and August 1997.

Instrument development. A 37-item survey questionnaire was developed to identify efforts to implement resolution WHA45.5. A set

of questions structured around the seven key elements of the resolution was developed; country representatives were asked whether changes had been made in these seven areas since 1992, when resolution WHA45.5 was passed. Most questions asked respondents to indicate on a nominal scale whether a specific activity had been initiated (e.g., "Since 1992, have you conducted an assessment of the needs for nursing services?"). When an affirmative response was made, respondents were asked for qualitative descriptions of the findings with respect to each activity. Respondents who indicated that nothing had been done with respect to the item were asked to indicate whether an activity was planned, and to describe it. Questions related to availability of financial resources for basic education and fellowships were measured on an ordinal scale (1 = increased; 2 = decreased; 3 = no change). While nominal scaling techniques have their limitations (Streiner & Norman, 1989), simple nominal and ordinal response scales and requests for qualitative descriptions were used to enhance the reliability of the measure in the face of varying levels of experience, among Member States, in completing research surveys. There were two sources of potential bias in the survey method used. Streiner and Norman raise concerns about social desirability bias, and Babbie (1998) raises issues about recall bias. Both sources of bias are considered below, under **Discussion.**

The final set of survey questions examined progress related to: (1) conducting assessments for nursing and midwifery services (needs, utilization, and roles and functions); (2) strengthening education (change in nursing and midwifery curricula to reinforce primary-care content; review/upgrade of quality of basic, continuing, and post-graduate education; change in financial resources available to support basic, continuing, and post-graduate education; change in number of fellowships supporting basic and post-graduate education; and increase in number of nurses and midwives with access to university education); (3) health policies (change in contribution of senior nurses and midwives to health-policy development, major policy change in order to strengthen nursing and midwifery, and presence of a written/documented national action plan for nursing and midwifery development); (4) enacting legislation (reviewed or enacted legislation or regulations to ensure quality nursing and midwifery services and education); (5) strengthening managerial and leadership capabilities (increase in numbers of senior nursing and midwifery positions at central [ministry] and operational [region, province, district] levels and increase in number of managerial and leadership trainees); (6) working conditions (increase in salaries or benefits and improvement in career opportuni-

ties); and (7) adequacy of resources (change in the number of budgeted posts).

To ensure face validity, the questionnaire was reviewed by WHO Headquarters staff, regional nurse advisors in the six regions, and members of the WHO Global Advisory Group for nursing. The questionnaire was also submitted to the WHO Focal Group on Questionnaires, which approved its appropriateness and ethical acceptability. The 37-item questionnaire was piloted in the regions in March 1994. No major changes were identified and it was distributed in five languages (French, German, Russian, Spanish, and English) in August 1994.

Sample. The survey was sent to all 190 countries that were WHO Member States in 1994, as the goal of this study was to identify the activities of all Member States.

Data collection. The questionnaire was sent to the six WHO regional offices, which forwarded it to their Member States' national ministry of health (MOH) or the equivalent health authority. Each questionnaire was accompanied by an explanatory letter from the appropriate Regional Director requesting cooperation. Reminders were sent in March and June 1995, consistent with the technique defined by Dillman (1978).

Data Analysis

The data were analyzed using SPSS for Windows 6.0 (SPSS, 1993) for the quantitative data and Ethnograph 4.0 (Seidel, Kjolseth, & Seymour, 1994) for responses to open-ended questions. Data were validated to ensure accuracy of data entry using random verification. Nominal data were coded 1 for a "yes" response, 0 for a "no" response, and missing for a non-response. Percentages of yes responses were determined for each item overall and by region. The number of respondents for each reported percentage is also noted, as not all participating countries answered all questions. These methods differ from those used in the WHO study report, and, as a result, reported percentages differ (O'Brien-Pallas et al., 1997).

The comments made in response to open-ended questions were transcribed verbatim and content analysis was performed. A brief overview of these comments resulted in the emergence of keywords, which were then coded by two raters. The raters independently assigned codes to meaningful segments of data using the same broad categories. Inter-rater reliability was tested at three intervals. During the reliability tests, the assigned codes were discussed and updated on the

master coding sheet. Subsequent changes were made to previously coded data to ensure that the same coding definitions were employed throughout (Sandelowski, 1995). Once coding was completed and satisfactory levels of inter-rater reliability (85% agreement) achieved, Ethnograph 4.0 software was used to produce frequency counts of each code for all responses and for responses by Member State, region, and level of economic development as reported in *World Development Report 1993* (World Bank, 1993). The data were further collapsed into 15 broad themes. Frequency counts for each theme were produced by region. The broad themes were: benefits, salaries, shortages, demand, supply, deployment, roles and functions, financial resources, health policy, regulation and legislation, management of nursing and midwifery services, working conditions, research development, education, and assessments. This paper summarizes the qualitative responses provided for each question.

Results

Response Rate

A total of 150 Member States (79%) responded. By region, the number of Member States returning a completed survey compared to all possible respondents was: Africa 29/46, Americas 32/35, Eastern Mediterranean 12/22, Europe 42/50, South-East Asia 9/10, and Western Pacific 26/27. It should be noted that the response rates for Africa and Eastern Mediterranean were the lowest, at below 70%.

Assessment of Needs, Utilization, and Roles and Functions

The assessment of nursing and midwifery HHR involved the examination of three dimensions: needs, utilization, and roles/functions. Qualitative analysis of the narrative responses to these questions revealed that the responsibility for undertaking HHR assessments varied: In some countries, assessments were made at the central government level; in others, they were made by professional nongovernmental bodies, consultants, and researchers or by nursing and midwifery panels. The methods employed to examine needs, utilization, and roles/functions also varied in method used and degree of sophistication, ranging from informal evaluations to carefully designed studies. Reported approaches included review of standards of nursing and midwifery practice and related job evaluations, review of job descriptions, and work measurement studies to analyze components of tasks and functions.

Of the Member States responding to this item, 71% (n = 148) indicated that they had completed an assessment of nursing service needs since 1992, and 70% (n = 146) had completed an assessment of nursing service utilization. In comparison, fewer Member States reported assessments of midwifery service needs (60%, n = 126) and utilization (59%, n = 114). Overall, 61% (n = 142) of Member States had assessed the roles and functions of nursing personnel since 1992.

Of the 150 respondents, 129 provided narrative comments on the findings of their needs assessments; 114 countries commented on utilization assessments and 81 countries reported on roles and functions. The comments related to education, shortages, surpluses, regulations, and concerns about roles and functions. Countries that had completed assessments reported increasing demands for services, personnel shortages, and often inappropriate deployment of personnel.

Education

Ninety percent of participating Member States (n = 139) had reviewed/improved the quality of basic nursing and midwifery education since 1992; 83% (n = 132) had reviewed/improved continuing education and 75% (n = 122) had strengthened post-graduate education. A change in curricula to reflect greater primary health care (PHC) content had been made by 81% (n = 143) of Member States for nursing education and 73% (n = 124) for midwifery education (Table 1). A number of countries had made completion of secondary education a requirement for admission to nursing school or had begun to provide basic nursing education at the university level, and 63% (n = 141) indicated that university education had been made more accessible to nurses and midwives. However, only 40% (n = 117) reported increased resources for fellowships for post-basic education. Only 4% of WHO fellowships have been awarded to nurses and midwives.

Respondents' comments indicated that many strategies had been employed or were planned to enhance PHC content and improve the overall quality of nursing and midwifery programs. Strategies ranged from simple content reviews to integration of assessments of quality and PHC relevance. Some countries reported that they had no programs to review — their personnel were enrolled in foreign training programs.

Program changes and strategies to improve the quality of education included raising entry requirements; some countries considered it necessary to move basic education into the university, to improve the

Table 1 *Strengthening of PHC Content in Curricula and Review / Upgrade of Nursing and Midwifery Education, by Region*

Region (*N* responding / *N* in region)	Change in Curricula to Strengthen PHC Content				Review/Upgrade of Quality of Nursing and Midwifery Education					
	Nursing		Midwifery		Basic		Continuing		Post-Graduate	
	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*
Africa (29/46)	82.1	28	85.2	27	81.5	27	65.4	26	56.0	25
Americas (32/35)	89.7	29	59.1	22	100.0	29	92.6	27	73.1	26
Eastern Mediterranean (12/22)	90.9	11	90.0	10	100.0	11	100.0	11	87.5	8
Europe (42/50)	69.0	42	69.4	36	83.3	42	83.8	37	80.0	40
South-East Asia (9/10)	66.7	9	77.8	9	88.9	9	75.0	8	60.0	5
Western Pacific (26/27)	91.7	24	70.0	20	95.2	21	87.0	23	88.9	18
Total (150/190)	**81.1**	**143**	**73.4**	**124**	**89.9**	**139**	**83.3**	**132**	**74.6**	**122**

ability to fill changing and expanding roles. Some Member States reported strategies to increase the number of nurses and midwives with baccalaureate and graduate degrees; others reported development of education standards and evaluation of programs based on those standards, with regional examinations to monitor knowledge of PHC. However, there were comments to the effect that while basic education had been improved, improvements in practice were just beginning to be made. Some countries reported that continuing education programs were focused on such skills as breastfeeding and family planning, and some reported that education in PHC for nurses and midwives was part of multidisciplinary programs.

Some Member States commented that while the MOH might report increased efforts to improve education and increase PHC content in curricula, there was disagreement between the government and the profession about the extent to which changes had actually occurred. Many respondents reported that the government had a poor understanding of PHC, and that while there was discussion about enhancing the quality of nursing and midwifery education, political and personal conflicts blocked substantive improvements in programs. For example, some Member States reported that curriculum models suggested by MOHs were not consistent with the professional goal of making a university degree a requirement for entry to practice. Other Member States reported that advanced education and continuing education were considered irrelevant by key policy-makers in their health ministries.

Policy Involvement

Various efforts to include nurses and midwives in policy development were among the most frequently reported strategies for strengthening services at the bedside, and 73% of countries (n = 142) indicated that their contributions to policy development had changed. Fewer countries (57% of n = 142) reported major policy changes in support of nursing and midwifery (Table 2). Only half (51% of n = 141) had developed a written national action plan for nursing, 39% (n = 121) for midwifery. Further, only 42% (n = 117) had a nursing unit in the MOH, though 70% (n = 130) had a chief nursing officer at the ministry level, and some countries indicated that a designated individual or group within government was responsible for matters related to nursing and midwifery.

Participating Member States reported a variety of mechanisms and structures to facilitate contributions to policy development. The reported mechanisms through which nurses and midwives influenced

Table 2 *Contribution of Nurses and Midwives to Policy Development, Policy Changes, and Written National Action Plan, by Region*

Region (*N* responding / *N* in region)	Changes in Contributions of Senior-Level Nurses and Midwives to Health Policy Development		Major Policy Changes in Nursing and Midwifery		Written National Action Plan			
					Nursing		Midwifery	
	%	*n*	%	*n*	%	*n*	%	*n*
Africa (29/46)	89.3	28	46.4	28	46.4	28	44.0	25
Americas (32/35)	62.1	29	41.4	29	58.6	29	30.4	23
Eastern Mediterranean (12/22)	80.0	10	80.0	10	50.0	10	37.5	8
Europe (42/50)	63.4	41	63.4	41	42.5	40	26.5	34
South-East Asia (9/10)	66.7	9	55.6	9	55.6	9	55.6	9
Western Pacific (26/27)	80.0	25	68.0	25	60.0	25	54.5	22
Total (150/190)	**72.5**	**142**	**57.0**	**142**	**51.1**	**141**	**38.8**	**121**

policy varied according to how the word "contribution" was defined, the level at which the contribution was made, and the ways in which contributions could be made.

At one end of the continuum, about half the respondents reported that nurses and midwives had a major influence on policy development at the national level, through positions held in government or through an advisory/consultative process established with nursing and midwifery associations. Key policy initiatives included development of a nursing division within the MOH, improvements in education standards and access, development of legislation, and improvements in the numbers and deployment of HHR. A third of the Member States reported that policy contributions were made at regional levels and in individual work settings. At the other end of the continuum, approximately one fifth of the countries reported that nurses and midwives had a very limited role or none at all in the development of health policy.

Legislation

While two thirds (66%) of participating Member States (n = 143) indicated that legislation and/or regulations aimed at ensuring quality nursing services and education had been enacted or reviewed since 1992, half (49%, n = 100) indicated that such reviews had been completed for midwifery. Legislation was enacted or reviewed most often by Member States in Western Pacific region for nursing and in Africa region for midwifery. Legislation was enacted least often in South-East Asia region. The participating Members States that most frequently reported plans to enact or review legislation in the future were those in Americas region (nursing) and Eastern Mediterranean region and South-East Asia region (midwifery).

A total of 116 countries commented on issues associated with regulations and legislation; 31 reported that legislation had been drafted, and seven indicated that legislation was in the review process. Member States at low and lower-middle levels of economic development were determining what laws should be in place for services, attempting to develop nursing and midwifery boards, revising nursing regulations, and developing standards following the direction provided by the International Council of Nurses. Some reported that legislation related to nursing and midwifery had been drafted and submitted but was stalled at the MOH level. Four countries reported that no specific legislation existed.

Management and Leadership Skills

Forty-one percent of responding Member States (n = 146) indicated they had increased the number of senior nursing and midwifery positions at the central (ministry) level since 1992, while 59% (n = 142) reported increased numbers of nursing positions at operational levels. The majority of Member States (87% of n = 141) reported increases in numbers receiving training to strengthen leadership and management skills (Table 3). Comments by respondents suggested that despite the existence of management and leadership positions, these could not be filled because of lack of finances or lack of individuals with the requisite skills.

Appropriate Working Conditions and Adequate Resources

Sixty-two percent of participating Member States (n = 133; note that countries in Europe region did not respond to this question) reported improved career opportunities since passage of resolution WHA45.5. Sixty percent (n = 140) of Member States in all six regions reported increases in the number of budgeted posts. Respondents described using a variety of strategies to determine which resources should be increased. However, in many parts of the world severe shortages of nurses and midwives, coupled with the transition period inevitably associated with initiating new education programs, resulted in a limited ability to fill posts. At the same time, poor salaries and limited career opportunities alongside shortages of personnel were reported. While 72% (n = 106; excluding Europe region) reported increases in salaries and benefits since 1992, several countries reported that because of financial crises nurses were not paid at all for months on end. Others reported that stagnating salary levels or actual decreases in salaries resulted in decreased purchasing power due to inflation or devalued currency at the country level.

Discussion

This study provides a "snapshot" in time and describes key activities of WHO Member States in relation to implementation of elements of resolution WHA45.5 to strengthen nursing and midwifery resources. Readers are cautioned that in some regions the response rate was low and that some questions were not answered by all respondents. Even with an almost 80% overall response rate, there is still potential for bias, as the 150 respondents may not be representative of all 190 Member States across the six WHO regions. The differential response rates for

Table 3 *Increases in Nursing and Midwifery Positions and Training Opportunities, by Region*

Region (*N* responding / *N* in region)	Central (Ministry) Level Increase in Senior Positions		Operational Level (e.g., region, province district) Increase in Senior Positions		Increase in Number Receiving Training to Strengthen Managerial and Leadership Skills	
	%	*n*	%	*n*	%	*n*
Africa (29/46)	37.0	27	55.6	27	85.2	27
Americas (32/35)	34.4	32	60.0	30	90.0	30
Eastern Mediterranean (12/22)	50.0	10	75.0	12	90.9	11
Europe 42/50)	42.9	42	47.5	40	82.5	40
South-East Asia (9/10)	33.3	9	88.9	9	100	8
Western Pacific (26/27)	50.0	26	58.3	24	84.0	25
Total (150/190)	**41.1**	**146**	**58.5**	**142**	**86.5**	**141**

the different regions may mean that for regions such as Africa and Eastern Mediterranean the estimates are not representative of the entire region. Also, the overall summary across regions may not adequately reflect values that would have been obtained had all Member States responded. Preliminary investigation of this issue indicates that the overall summary percentages are close to estimates weighted to ensure regional representation. However, it should be noted that any bias may possibly be an over-representation for some items and results must be viewed with all limitations in mind. Qualitative responses are reported verbatim, and the authors make no judgements about the efficacy of health policy reforms made on behalf of nurses and midwives by various countries throughout the world. As Borissov and Rathwell (1996) aptly caution, "even in the unlikely event that health care systems were identical, the political systems and the manner in which they function would most certainly be different" (p. 1505). Furthermore, social desirability bias is deemed to be minimal; given the candid and often blunt nature of the qualitative responses, we have faith in the respondents' honesty. Given the detail of the qualitative responses, recall bias is also deemed to be minimal. However, we have no way of knowing if either of these sources of bias influenced the decisions of the 40 Member States who did not submit a completed questionnaire.

Nevertheless, for the 150 responding WHO Member States this study provides a baseline understanding of the state of nursing and midwifery HHR in relation to a set of criteria established by resolution WHA45.5. In some developing countries the resolution may have been a motivating force for the initiation of new activities, while in others the activities might have been in place for some time and were being refined. If we accept the proposition put forth by the World Bank (1993) that the most cost-effective means of providing essential health care is a combination of public health strategies and a package of essential primary care services, most of which can be provided by nurses and midwives, then these findings can be used to pinpoint the areas requiring further work. The study data show progress at the country level, yet they also highlight the need for far more action.

By virtue of numbers, skills, and work location, nurses and midwives are positioned to ensure equitable access to health services, promote and protect health, and control or prevent specific health problems (World Bank, 1993). Accurate information on the numbers and use of personnel for planning purposes is central to improving the health of populations (Hall, 1988). Yet HHR planning is often limited by the lack of valid data sufficient to permit analysis. Countries that have a clear picture of the status of their nursing and midwifery resources and how

these resources are utilized and deployed are better positioned to ensure that other aspects of WHA45.5 are acted upon. Knowledge of human resources is the first step in strengthening them, yet approximately one third of Member States responding to these questions have not yet completed these reviews.

The study data suggest that Member States perceive that the greatest strides made worldwide have been in quality, content, and access to educational programs. In recent years a number of North American studies have identified the relationship between improved nursing education and better client outcomes (Aiken, Smith, & Lake, 1994; Blegen, Goode, & Reed, 1998; Blegen & Vaughn, 1998; Kovner & Gergen, 1998). Lack of access to the fellowships and awards necessary to pursue these studies was a deterrent in many countries. This study highlights the need for ongoing work to accurately define PHC content, congruent with the views of the professions and of those who fund educational programs designed to produce future providers.

While the professions of both nursing and midwifery are reported to have contributed to policy development since passage of resolution WHA45.5 in 1992, narrative comments suggest that numerous financial, social, and cultural barriers must be addressed before they can fully contribute in this area. Strategies must be taken at the country level to ensure that nurses and midwives directly influence decision-making related to health policy and legislation. Management and leadership skills are essential. If there is an inadequate supply of appropriately prepared individuals, senior budgeted positions will not be filled. If positions are filled by inadequately prepared individuals, the contribution to policy may not be substantial and the status quo will be maintained.

Nursing and midwifery services are at varying stages of development around the world. Although there are many common problems, the solutions have to be tailored to suit each country's unique needs and sociocultural practices. Solutions must be sought with the active participation of practitioners, educators, and managers who are representative of the communities in which nurses and midwives work. Data from this study support the conclusions of a WHO expert committee:

> The responsibility for coordination in health matters cannot lie solely with the nursing profession. Commitment to improving health status, through better health systems and effective use of human and fiscal resources, is the business of politicians, policy-makers, communities, individuals, and all health care workers. Support for the developments in nursing practice is a key element in improving health care systems; it too is everyone's business. (WHO, 1996, p. 22)

This study suggests that in some countries a great deal of collaborative work remains to be done before nursing and midwifery services can make a full impact on health.

Conclusion

This report was the first attempt ever to evaluate the outcomes of a World Health Organization resolution. It provides a baseline description of Member States' perceptions of the status of nursing and midwifery HHR in relation to the elements of the resolution. Findings suggest that there is a critical need to understand and support nurses and midwives in influencing policy and legislation, as well as improving their working conditions. The results suggest that while some progress has been made in understanding needs, utilization, and roles with regard to education, the other aspects of the resolution require immediate attention in order to prevent further erosion of the nursing and midwifery workforce. The findings can be used as a means of understanding the realities experienced by Member States when planning in-depth analyses with a view to reaching country-specific and region-specific solutions. Specifically, we need to understand the difficulties encountered in: database development and estimating numbers and types of human resources required; the influence of cultural, social, and contextual variables on role definition and implementation; and influencing decision-making, policy, labour relations, and working conditions.

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Nurse Staffing and Patient Outcomes: Evolution of an International Study

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Des réformes effectuées aux États-Unis, au Canada et en Europe influant sur toute l'industrie du secteur de la santé ont donné lieu à une occasion unique, celle d'examiner les effets de la restructuration des hôpitaux sur les soins infirmiers auprès des malades hospitalisés et des résultats en regard de leur guérison, et ce dans un éventail de situations. Sept équipes de recherche interdisciplinaires, en provenance d'Alberta, de Colombie-Britannique, d'Angleterre, d'Allemagne, d'Ontario, d'Écosse et des États-Unis, ont formé un consortium international dont le but est d'étudier les effets d'une telle restructuration. Chaque équipe a recruté un grand nombre d'hôpitaux et d'infirmières pour cerner le rôle que joue l'organisation des soins infirmiers, ciblés par les mesures de restructuration hospitalière, en regard de la guérison des patients. L'étude vise à favoriser la compréhension de l'influence qu'exerce le personnel infirmier autant que l'environnement de la pratique professionnelle à l'égard d'une telle guérison. Une discussion sur la fondation théorique, la conception de l'étude et le processus de développement des méthodes et des instruments de mesure utilisés dans le cadre de l'étude illustre le déroulement du processus jusqu'à maintenant, en plus de la faisabilité d'un tel projet international et des occasions générées.

Industry-wide health sector reforms in the United States, Canada, and Europe have provided a unique opportunity to examine the effects of hospital restructuring on inpatient nursing care and patient outcomes across an array of settings. Seven interdisciplinary research teams — 1 each in Alberta, British Columbia, England, Germany, Ontario, Scotland, and the United States — have formed an international consortium whose aim is to study the effects of such restructuring. Each site has enrolled large numbers of hospitals and nurses to explicate the role that organization of nursing care, a target of hospital restructuring, plays in differential patient outcomes. The study seeks to understand more fully the influence of both nurse staffing and the nursing practice environment on patient outcomes. Discussion of the theoretical foundation, study design, and process of developing the study instruments and measures illustrates the process to date, as well as the feasibility of and opportunities inherent in such an international endeavour.

Widespread hospital reforms, undertaken during the 1990s in response to both marketplace and public policy initiatives to increase efficiency, have succeeded in transforming hospitals in the United States, Canada, and Europe (Anderson, 1997; Chan & Lynn, 1998; Office of Technology Assessment, U.S. Congress, 1995; Saltman & Figueras, 1998; Sochalski, Aiken, & Fagin, 1997). These reforms have left behind hospitals whose workforce and work-flows have been substantially reorganized (Decter, 1997; Harrison, 1997; Walston, Burns, & Kimberly, in press; Walston & Kimberly, 1997). In particular, many hospitals have altered their nursing

skill mix — employing fewer R.N.s to supervise growing numbers of lesser-trained assistive personnel — and have redefined the roles of nurses and other staff in the delivery of patient care (Bernreuter & Cardona, 1997; Brannon, 1996; Shamian & Lightstone, 1997; Shindul-Rothschild & Duffy, 1996; Siehoff, 1998; Vincent, 1997; Willmot, 1998).

In its recent report to the U.S. Congress on nurse staffing in hospitals, the Institute of Medicine (IOM) issued a call for empirical studies to determine if the quality of care in hospitals was being adversely affected by the reorganization of the nursing workforce (Wunderlich, Sloan, & Davis, 1996). Spurred by this call for research from the IOM, as well as by the international escalation of hospital reorganization and the growing number of reports from hospital nurses of deteriorating working conditions (Driedger, 1997; Gordon, 1997; Shindul-Rothschild, Berry, & Long-Middleton, 1996), researchers from the University of Pennsylvania convened a state-of-the-science conference on hospital workforce restructuring. With funding from the Rockefeller Foundation, the Penn team, led by Drs. Linda Aiken and Claire Fagin, invited experts from the hospital sector, public policy, health workforce, nursing and medicine, and health outcomes research in the U.S., Canada, the U.K., and Germany to the Rockefeller Conference Center in Bellagio, Italy, in November 1996 to participate in this conference (Sochalski, Boulis, Shamian, Buchan, & Müller-Mundt, 1997). The purpose of the conference was to determine the extent and nature of hospital workforce restructuring across countries with differently organized and financed health-care systems, and to assess the feasibility of an international study on the outcomes of hospital restructuring. Within 1 year, participants in the Bellagio conference had organized interdisciplinary research teams in seven sites — Alberta, British Columbia, England, Germany, Ontario, Scotland, and the U.S. (Pennsylvania) — each of which procured funding from broad-based government and private foundation sources to support their participation in a large international study to assess the impact of hospital reorganization on patient outcomes (Sochalski & Aiken, 1999).

The study asks whether changes in the numbers of nurses and the practice environment in hospitals resulting from workforce restructuring have affected patient outcomes (McKee, Aiken, Rafferty, & Sochalski, 1998; White, 1997). Each site is treated as an "independent replication" of a common study design, with the goal of determining the strength and consistency with which the organization of nursing care explains differences in patient outcomes across sites. A multinational study affords the opportunity to capture a greater degree of variation in levels of nurse staffing, characteristics of the nursing practice

environment, and patient outcomes than one would get from studying any one country, thus providing a stronger test of the relationship among these factors.

In this paper we present an overview of the study and its theoretical framework, focusing on the efforts undertaken to create robust measures of the organization of nursing care in each site by adapting instruments and methods developed in the U.S. We illustrate the steps taken to incorporate important site-specific features of nursing practice and the health-care system, and we describe the activities involved in the preparation of the study data for data-sharing and cross-site analysis. Finally, we discuss the implications of this international research initiative for the future of health services and nursing research.

Study Aims and Design

This multi-site study poses the question: *Does the organization of nursing care in hospitals contribute substantively to differences in patient outcomes independent of other organizational features that have been shown empirically to be associated with outcomes?* Specifically, we are endeavouring to explicate the *direct* and *indirect* effects of both nurse staffing *and* the nursing practice environment on outcomes, while controlling for other contributing organizational characteristics of hospitals (Aiken, Sochalski, & Lake, 1997). The impetus for this line of inquiry comes from a U.S. study that found lower mortality rates in "magnet" hospitals — hospitals identified through a reputational study as having superior professional nursing practice environments (Gleason-Scott, Sochalski, & Aiken, 1999; Kramer & Schmalenberg, 1988a, 1988b) — than in a comparison group of non-magnet hospitals matched on organizational characteristics associated with patient outcomes, such as size, teaching status, qualifications of physicians, and technology (Aiken, Smith, & Lake, 1994). These lower mortality rates persisted even after controlling for differences in nurse staffing. The Aiken et al. (1994) study established an important link between magnet hospitals and better patient outcomes, but left unanswered the question as to whether it was the professional nursing practice environment in these hospitals that was substantively responsible for these outcomes or some other unspecified feature of the hospital. This research initiative takes up that question by employing, in a single study, data on the characteristics of the nursing practice environment and nurse staffing for a large number of institutions that vary on key organizational features.

The theoretical framework guiding this investigation is drawn from the fields of nursing, sociology, and organizational theory and articu-

lates the role that the organization of nursing care plays in effecting patient outcomes. The study model defines the organization of nursing care as comprising two elements: nurse staffing levels and attributes of the nursing practice environment. Nurse staffing levels have been linked with patient outcomes in studies conducted in the U.S. and the U.K. (Aiken, Sloane, Lake, Sochalski, & Weber, 1999; Blegen, Goode, & Reed, 1998; Czaplinski & Diers, 1998; al-Haider & Wan, 1991; Hartz et al., 1989; Hunt, 1997; Kovner & Gergen, 1998; Shortell & Hughes, 1988), as have a number of other hospital organizational characteristics, such as teaching status and the availability of state-of-the art technology. There is little theory explaining *how* these characteristics influence patient outcomes, a noted shortcoming of most organizational research in health care (Flood, 1994). This study seeks to address that shortcoming, proposing that organizational attributes that characterize the hospital's nursing practice environment, in addition to nurse staffing and other hospital characteristics, not only play an important role in differential patient outcomes and but may in fact serve to explain in part why these features have been associated with outcomes in previous studies. Indeed, Rosenthal, Harper, Quinn, and Cooper (1997), who found better patient outcomes in major teaching hospitals in the U.S. as compared with teaching-affiliated and non-teaching hospitals, speculated that the "teaching effect" may actually be a proxy for such features as the organization of nursing care, and emphasized the need for outcomes studies that examine more fully the organizational features of hospitals.

To that end, this study links both primary data from hospital staff nurse surveys and administrative data on patient outcomes and organizational characteristics of hospitals in a nested study design — that is, the responses of nurses are "nested" within hospitals and hierarchical regression models are used to assess the effects of both hospital-level characteristics and nurse-level characteristics within hospitals on patient outcomes. The hospitals included in the sampling frame were determined by the availability of patient outcomes data. In the U.S., the state of Pennsylvania has a particularly rich public-use hospital discharge data set that is available annually for the full census of acute-care hospitals and admissions. Furthermore, these hospitals are representative of hospitals throughout the U.S. on a number of organizational features (e.g., size, urban/rural location, teaching status). Consequently, the full census of acute-care hospitals in Pennsylvania make up the U.S. component of the study. For all three participating provinces in Canada and for Scotland, comparable hospital discharge data exist for the full census of acute hospitals within their borders, thus allowing for their inclusion in the study sample. In England and Germany, the sample includes a subset of hospitals for whom data on patient outcomes and hospital

characteristics are available through a private firm contracted to manage their information systems (see Table 1).

Registered nurses working in each of the study sample hospitals were the sampling frame for a staff nurse survey that would provide information on the nursing practice environment and other features of the workplace at each of these institutions. Staff nurses work across all patient-care departments within hospitals, and consequently they are well positioned to assess critical features of an institution affecting patient care and its outcomes. Uniform criteria for drawing the staff nurse sample were developed and applied in each site. In Canada and the U.S., the nurse registry lists served as the data source for the sampling frame; sampled nurses were asked on the survey to identify the hospital where they worked, which would allow their responses to be assigned to the appropriate hospital. In England, Scotland, and Germany, lists of eligible staff nurses were obtained directly from the hospitals enrolled in the study, making up their sampling frame. As seen in Table 1, the final sample included thousands of nurses in each site, whose responses are nested within large numbers of hospitals. The scale of this survey effort, while ambitious, was dictated by the nested study design, which requires that a representative sample of nurses be obtained for each hospital.

Table 1 *Hospital and Staff Nurse Study Samples*

Number of:	Alberta	British Columbia	England	Germany*	Ontario	Scotland	U.S.
Hospitals	109	97	32	30	209	27	210
Nurses	6,558	2,838	5,006	4,000	8,778	5,238	14,145

* The number of nurses in the study sample for Germany is an estimate; in the fall of 1999 the study was to commence.

Outcome Measures

The study design rests on patient outcome measures that (a) are sensitive and reliable indicators of quality of care and nursing practice (Strickland, 1997), and (b) could be derived from secondary data sources in each country. To that end, two key measures have been selected: hospital mortality rates, which as noted earlier have a well-documented empirical record of association with nursing, and a new and empirically promising outcome measure developed in the U.S. and using data from secondary or administrative sources — the failure-to-rescue rate (Silber, Rosenbaum, & Ross, 1995; Silber, Rosenbaum, Schwartz, Ross, & Williams, 1995; Silber, Rosenbaum, Williams, Ross, &

Schwartz, 1997). The failure-to-rescue rate is defined as the rate of death among patients experiencing complications, and can be thought of as the probability that a hospital fails to rescue patients who experience complications. The ability to rescue patients from complications is a function of nursing vigilance, of which surveillance is a large component. Nurse staffing levels determine the amount and quality of the interaction between nurses and patients and thus the effectiveness of the surveillance system in detecting early signs of complications. Furthermore, the nursing practice environment enhances or impedes nurses' timely interventions once complications are detected. Early detection of complications and a rapid response are related to survival, hence the conceptual link between nurse staffing, the practice environment, and patient outcomes.

Measures of the Organization of Nursing Care

In each study site, administrative or secondary data sources are available that contain at least rudimentary information from which commonly used aggregate measures of nurse staffing and nursing workload can be readily calculated, such as nurse-to-patient ratios and nursing skill mix. Procuring information on the nursing practice environment of hospitals, however, required the collection of primary data from the staff registered nurses in the study hospitals. A staff nurse survey used in a previous study in the U.S. (Aiken, Lake, Sochalski, & Sloane, 1997) served as the basis for development of the international nurse survey that would be used to obtain measures of the nursing practice environment and other features that characterized the work setting and nurses' work. The survey contained both study instruments and groups of items capturing features of the workplace: (1) the Revised Nursing Work Index (NWI-R), a 49-item inventory of work-environment features that nurses report as being important to delivering high-quality patient care (see Table 2), which had been adapted from Kramer and Hafner's (1989) original 65-item Nursing Work Index from their work with magnet hospitals; (2) the Maslach Burnout Inventory (Maslach & Jackson, 1982; Maslach, Jackson, & Leitner, 1997), a well-established instrument measuring domains of job stress and burnout; (3) reported incidence of needle-stick injury, risk factors, and prevention measures available (Aiken, Sloane, & Klocinski, 1997) that had been used to assess workplace safety; (4) a series of questions describing the nursing workload on a typical shift; and (5) questions about their work experience and level of expertise, characteristics of their current position (e.g., full-time, shifts worked), their job satisfaction, and demographic information.

Table 2 *Revised Nursing Work Index (NWI-R)*

For each item, the respondent indicates on a 4-point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree) the extent to which the item is present in their current job.

1. Adequate support services allow me to spend time with my patients.
2. Physicians and nurses have good working relationships.
3. A good orientation program for newly employed nurses.
4. A supervisory staff that is supportive of nurses.
5. A satisfactory salary.
6. Nursing controls its own practice.
7. Active staff development or continuing education programs for nurses.
8. Career development/clinical ladder opportunity.
9. Opportunity for staff nurses to participate in policy decisions.
10. Support for new and innovative ideas about patient care.
11. Enough time and opportunity to discuss patient care problems with other nurses.
12. Enough registered nurses on staff to provide quality patient care.
13. A nurse manager who is a good manager and leader.
14. A chief nursing officer who is highly visible and accessible to staff.
15. Flexible or modified work schedules are available.
16. Enough staff to get the work done.
17. Freedom to make important patient care and work decisions.
18. Praise and recognition for a job well done.
19. The opportunity for staff nurses to consult with clinical nurse specialists or expert nurse clinicians.
20. Good working relationships with other hospital departments.
21. Not being placed in a position of having to do things that are against my nursing judgment.
22. High standards of nursing care are expected by the administration.
23. A chief nursing officer equal in power and authority to other top level hospital executives.
24. A lot of team work between nurses and physicians.

Table 2 (cont'd)

25. Physicians give high quality medical care.
26. Opportunities for advancement.
27. Nursing staff are supported in pursuing degrees in nursing.
28. A clear philosophy of nursing that pervades the patient care environment.
29. Nurses actively participate in efforts to control costs.
30. Working with nurses who are clinically competent.
31. The nursing staff participate in selecting new equipment.
32. A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician.
33. Administration that listens and responds to employee concerns.
34. An active quality assurance program.
35. Staff nurses are involved in the internal governance of the hospital (e.g., practice and policy committees).
36. Collaboration between nurses and physicians.
37. A preceptor program for newly hired RNs.
38. Nursing care is based on a nursing rather than a medical model.
39. Staff nurses have the opportunity to serve on hospital and nursing committees.
40. The contributions that nurses make to patient care are publicly acknowledged.
41. Nurse managers consult with staff on daily problems and procedures.
42. A work environment that is pleasant, attractive, and comfortable.
43. Opportunity to work on a highly specialized patient care unit.
44. Written, up-to-date nursing care plans for all patients.
45. Patient care assignments that foster continuity of care, i.e., the same nurse cares for the patient from one day to the next.
46. Staff nurses do not have to float from their designated unit.
47. Staff nurses actively participate in developing their own work schedules (i.e., what days they work; days off; etc.).
48. Each patient care unit determines its own policies and procedures.
49. Working with experienced nurses who "know" the hospital system.

Previous studies in the U.S. using the NWI-R have linked attributes of the nursing practice environment derived from its items with patient outcomes. In one study, nurses working in a sample of magnet hospitals were much more likely to report having access to sufficient patient-care resources than nurses working in a comparative group of non-magnet hospitals (Sochalski, Boulis, et al., 1997). These findings suggest that nursing practice environment attributes derived from the NWI-R may be able to distinguish hospitals with better patient outcomes, in this case magnet hospitals, offering support for an empirical link between the practice environment and patient outcomes. This link is underscored by the findings of a study by members of the Penn team evaluating the outcomes of organizational innovations in inpatient AIDS care in the U.S. (Aiken et al., 1999). Higher levels of patient satisfaction were found on units where nurses reported better access to patient-care resources, after controlling for patient and hospital characteristics as well as nurse staffing levels. These findings suggest that the nursing practice environment can play a significant and independent role, beyond that of nurse staffing, in effecting patient outcomes.

Preparation of a Multinational Nurse Survey

To assess the face validity and applicability of the U.S. survey instrument across each of the international sites, two approaches were employed: focus groups (Krueger, 1994; Morgan, 1998; O'Brien, 1993) and pilot/feasibility studies. The focus group procedure entailed distributing the survey to small groups comprising staff nurses, nurse researchers, and nurse administrators. Each member of a focus group was asked to review the instrument for its face validity, completeness, appropriateness, applicability, and language. An integral task of the focus group was to determine if the NWI-R offered a meaningful and appropriate way to capture key features of nursing practice environment. The groups were then convened and collectively they reviewed the instrument, item by item, on the above criteria. A total of 10 focus groups were held in the six non-U.S. study sites. Each focus group comprised from five to 10 members, and the mix of nurses, while dominated by staff nurses, varied across the groups. In each site, the consensus from the focus group was that the NWI-R possessed considerable face validity for the purposes of the study. Minor language changes were required in a minimal number of items to accommodate site-specific terms and expressions. The Maslach Burnout Inventory was also viewed as having sufficient face validity and required no changes, and it had been used in other nursing studies in Canada, the U.K., and Germany (Hatcher & Laschinger, 1996; Hayter, 1999).

Modifications were required of some items assessing the nurses' work experience and characteristics of their current job and setting in order to reflect accurately the realities of the practice settings. For example, shift lengths, lines of reporting, and safety devices to prevent needlestick injury varied widely among the study sites. Items assessing these features were individually tailored across sites in ways that would preserve the *intent* of the item while reflecting the actual practice in the setting.

In three of the six sites, two hospitals were selected in which to pilot test the survey. The goal of the pilot test was to assess the applicability of the instrument in these settings and to determine if similar nursing practice environment attributes could be found in these non-U.S. sites. The survey was distributed to a random sample of inpatient staff nurses in two hospitals in Ontario, England, and Germany, and at least half of the nurses in each hospital completed and returned the survey. A statistically significant difference was found between hospitals in Ontario and England on the nurses' access to patient-care resources, and the difference approached statistical significance in Germany (see Table 3). In each country, the hospital with the higher mean score was a large teaching hospital with national reputation for excellence in patient care and nursing practice. The scores obtained for nurse access to patient-care resources for a magnet (Hospital A) and non-magnet (Hospital B) in the U.S. show the same pattern as the international sites. Both the range of scores and their pattern suggest that the NWI-R can be used in international settings to capture attributes of the nursing practice environment that may help to explain differences in patient outcomes.

Table 3 *Differences in Mean Scores on Nurse Access to Patient-Care Resources for Hospitals in England, Germany, Ontario, and the U.S.*

Site	Hospital A	Hospital B	t-stat	*p*
England	10.9 (3.2) (n = 260)	9.6 (3.0) (n = 336)	4.90	<0.001
Germany	9.2 (2.7) (n = 235)	8.6 (2.6) (n = 99)	1.60	0.110
Ontario	9.1 (3.2) (n = 56)	6.9 (3.1) (n = 40)	3.30	0.001
U.S.	10.5 (2.9) (n = 177)	8.0 (2.9) (n = 138)	7.53	<0.0001

The results of the focus groups and the feasibility studies were part of the agenda for a 3-day investigators' meeting held in Washington, DC, in June 1998. Team members from each of the seven sites were convened to review the status of the study in each site and to prepare for fielding the staff nurse survey in the fall of 1998. An important goal of the meeting was the construction of a common nurse survey instrument for use in each site. To that end, each site presented the results of their focus groups and pilot/feasibility studies. The seven teams then collectively reviewed the instrument item by item. Consensus was reached that the international survey would comprise a revised common or "core" survey and a site-specific section at the end containing a limited number of items assessing issues of salience in that country or province. The core survey included the major elements of the pilot survey — the NWI-R, the Maslach Burnout Inventory, a streamlined set of questions on needle-stick injury and workplace safety, nursing care workload on the last shift worked, and characteristics of their position, their work experience, and job satisfaction. A number of items were added to the core survey to extend the domains assessed and to facilitate cross-site comparisons. These items included questions on the quality of nursing care, frequency of adverse events (e.g., patient falls, nosocomial infections), patient readiness for discharge, use of student nurses to support nursing personnel, prevalence of overtime, and nursing interventions left undone for lack of time. The items added at the end of the survey varied by site: Alberta and British Columbia added questions on abuse in the workplace to explore the scope and degree of this problem, which has been increasingly reported by nurses; Ontario included a scale measuring effort-reward imbalances in the workplace (Peter & Siegrist, 1997); and England and Scotland added items on the incidence of and reasons for time away from work and perceptions of involvement in decision-making at the hospital.

Data Preparation and Documentation

With consensus on the survey items in place, preparation of a database that can be shared across sites has become the next task. While not commonly addressed in the health-research literature, data sharing and the attendant preparation required is increasingly common in the social sciences (Estabrooks & Romyn, 1995). Here the task is twofold: assuring uniformity in coding and data entry; and developing a suitable data file that can be shared and used across sites. Typically, the temptation in many studies is to expedite the data-entry phase so that tabulations can be generated, while the data files themselves may end up, unfortunately, being treated as by-products or research "refuse." However,

when data sharing is a planned objective, the data products take on a much higher profile and must be viewed as separate and significant contributions of the overall research project. The data products include raw data files, machine-readable data documentation, command files for statistical software, and internal or system files from statistical systems such as SAS or SPSS.

To share data — or to prepare data so that sharing is a possibility — attention must be given to several issues. First, since the data may be available to researchers other than the investigators who collected the data, details about the data must be clearly documented. Several data sources comprise this study — the staff nurse survey, the administrative data files containing information on hospital characteristics, and hospital discharge data files from which patient outcomes data are derived — each of which is a separate data file. Documenting each data source and its resulting data products is a critical step, including the original instrument for each and the rules for converting items to variables in the data file. Furthermore, since the study design requires linking these three data sources, each data file must include a common identifier, in this case a hospital identifier, so that they can be subsequently merged.

Second, if comparisons are to be conducted across sites, the common variables need to be organized similarly in each data file. Mapping the record layout so common items have comparable formats and can be readily located across the multiple surveys is essential at an early stage in planning the content of these files. Coding schemes must be harmonized to ensure that the values of variables across the surveys are identical. Furthermore, administrative variables that identify the component parts of the overall project need to be incorporated in both the documentation and the data. For example, a separate variable to identify the country within which the survey was conducted may be the first variable in the data file.

Third, data sharing raises further concerns about protecting the identity of subjects and taking steps to guard against disclosure. While confidentiality is an issue, options do exist for anonymizing data to minimize the risk of disclosure. There are various ways of preparing data so that they can be shared with others outside the original research team. For example, all personal information that might lead to the easy identification of subjects may be kept in a file that will not be shared but that has a key variable permitting access to the data file by the original investigators. Another strategy employed by national statistical agencies is to prepare public-use files of confidential surveys:

A master file is produced containing all of the information in its fullest detail; from this file, a public-use file is created and shared with other researchers.

The study team in Alberta took the lead in developing the template for data coding, entry, and documentation for the study. Careful mapping of the record layout was undertaken so common items could be readily located, and coding schemes were harmonized so that the values assigned to all the variables would be comparable. Furthermore, administrative variables (e.g., country/site) were incorporated in both the documentation and the data. Steps are now underway to establish the final protocol to protect the identity of subjects and to guard against disclosure. The product of these efforts in data preparation, we believe, will be data products that will not only support sophisticated analysis to meet the research aims of the international study, but will also be useful in the pursuit of a broader agenda in outcomes research.

Implications and Future Directions

Primary data collection with the nurse survey is complete in six of the seven study sites and we anticipate completion of the nurse survey by the end of 1999. Survey response rates have ranged from 45% to nearly 60% across the six sites, and a review of the data across sites has revealed minimal missing data across the entire survey. A second meeting of the investigators was held in June 1999 in conjunction with the International Council of Nurses Centennial meetings in London. At this meeting, preliminary analyses of the survey data were presented and reviewed and plans for intra- and inter-site analyses were developed (these are currently underway). Acquiring the survey data has been a labour-intensive and resource-intensive process, made more so by our goal of maximizing the utility and comparability of the data sets and our commitment to sharing the survey data across sites and more broadly on completion of the study. The result, we believe, is an unprecedented and valuable collection of nurse and organizational data that can be linked to patient outcomes — data from thousands of hospital staff nurses in five countries that can be used to characterize the organizational environment of hospitals. To date, much of the research undertaken to characterize hospitals and the effects of organizational change uses information obtained from surveys and interviews of small numbers of executive and administrative staff. In this endeavour, it is the staff nurses in the hospital who are providing an assessment of the organization and an evaluation of the presence of features important to the delivery of quality patient care.

As with the survey data, work is underway to develop and refine the patient outcomes measures, particularly the failure-to-rescue measure. Calculation of the failure rate requires the identification of patients experiencing complications during their hospital stay, a challenge in many sites where administrative or secondary data sources lack the depth and detail in diagnosis and procedure coding necessary to accurately and reliably identify complications among hospitalized patients (Iezzoni, Daley, Heeren, Foley, Fisher, et al., 1994; Iezzoni, Daley, Heeren, Foley, Hughes, et al., 1994; McKee, & James, 1997). An alternative method for calculating the failure rate that does not rely on these data to identify patients with complications — one that substitutes a prolonged hospital length of stay (LOS) for a documented complication event — is currently being tested. Preliminary work with hospital discharge data in the U.S. and Canada shows strong correlations between failure rates calculated using complications data and rates using prolonged LOS for complications (Silber, Even-Shoshan, Sutaria, Tu, & Anderson, 1998). Extension of this work is currently underway among the other study sites to determine whether sensitive failure rates can be calculated from existing secondary data sources.

This study will also advance the agenda of nursing outcomes research by employing multi-level models to examine the influence of organizational characteristics of nursing on patient outcomes. The study design calls for estimating hospital-level scores on organizational attributes of the practice environment by nesting responses from nurses within the hospital at which they are employed (Aiken, Sochalski, & Lake, 1997). An attribute is deemed to be reliably measured when the variability in responses within hospitals is small relative to the variability among hospitals. However, responses may be influenced by certain nurse characteristics, independent of the setting where they practice, and as such could confound interpretation of the findings. For example, nurses with a baccalaureate degree, regardless of where they work, may be more likely to agree that certain attributes are present at their hospital. Recent methodological advances provide the researcher with robust methods for combining individual and aggregate-level data in the same analysis, while controlling for such potentially confounding effects, when using aggregate measures to predict patient outcomes (Aiken, Sloane, & Sochalski, 1998; Goldstein & Spiegelhalter, 1996).

Finally, this study is serving as a springboard for other research initiatives and collaborations, extending the life of the data generated in this effort well beyond the international study described here. Not only are these data a rich source of analysis in themselves, but they hold considerable potential for linkage with other relevant databases. Indeed,

the Ontario team has sought and received funding for two additional studies using the nurse survey data, one of which links the practice environment attributes and burnout scores with other databases in the province containing information on workplace injuries among nurses in hospitals. The Penn team, meanwhile, is linking their study data with those from a study that has catalogued hospital reorganization activities over a 5-year period in a subset of Pennsylvania hospitals. Cross-site collaborations are also being forged, leading to secondary studies and joint publications on wide-ranging topics. For example, the research teams across the three Canadian provinces are examining nurse burnout, its causes, and its relationship to patient outcomes, and the teams at Penn, Canada, and the U.K. are exploring the relationship between quality of care assessments and patient outcomes.

This international study and its resulting collaborations have stimulated a systematic study of the influence of nursing on patient outcomes, in large part because of the availability of such a rich data source with which to do so. There is every indication that new opportunities to extend this outcomes research agenda will continue to arise. We envision that work on this study will lead to additional international partnerships, and will leave behind a legacy of interdisciplinary research that serves nursing and patients well.

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Health in the Aftermath of Violence: A Critical Narrative Study of Children of War and Children of Battered Women

Helene Berman

De plus en plus d'enfants dans le monde vivent dans des contextes de violence. Ce phénomène ne suscite l'attention des chercheurs que depuis peu. Toutefois, un nombre croissant de preuves démontre que les enfants témoins d'actes de violence souffrent des mêmes maux que ceux qui affligent les personnes subissant directement la violence. Cette étude narrative critique se penche sur les connaissances et le vécu en rapport à la santé ainsi que la relation entre celle-ci et la violence. L'échantillon, composé d'enfants de 10 à 17 ans, était divisé en 2 groupes de participants ayant été témoins d'actes de violence : les enfants qui ont vécu la guerre et ceux dont la mère a été battue. L'analyse des données a révélé plusieurs catégories : la santé en tant qu'absence de maladie, la santé en tant que prérequis à la participation à des activités désirées, la santé en tant que phénomène holistique et multidimensionnel, et la santé en tant qu'élément essentiel pour « se rendre au bout d'une journée ». Bien que les 3 premiers concepts s'appliquent aux enfants qui n'ont pas vécu la violence, le quatrième s'applique uniquement à ceux qui l'ont vécue. Même s'ils ne vivaient plus en situation de violence, les participants avaient encore à relever une myriade de défis physiques et émotionnels en rapport à leur santé. Toutefois, plusieurs ont démontré des capacités de guérir. Des arguments sont émis à l'effet que la violence et la santé ne peuvent être dissociées et que l'exposition à la violence entraîne des effets importants et durables sur le vécu des enfants et leurs croyances quant à leur santé. Cet article traite des stratégies d'intervention à court et à long terme.

Growing up amid violence has become reality for many children throughout the world. The health effects of this phenomenon have only recently begun to be addressed by researchers. However, there is growing evidence that children who witness violence suffer many of the same outcomes as those who experience violence directly. This critical narrative study examined the understandings and experiences of health and the relationship between violence and health. The sample, aged 10 to 17, comprised 2 groups of witnesses to violence: children of war and children of battered women. Analysis of the data revealed 4 categories: health as the absence of illness, health as a prerequisite for participation in desired activities, health as a holistic and multidimensional phenomenon, and health as a necessity for "getting through the day." While the first 3 ideas are consistent with those of children who have not lived amid violence, the 4th is unique to this population. Although no longer living in violence, the participants continued to face myriad physical and emotional health challenges. However, many also revealed an ability to heal. It is argued that violence and health cannot be separated, that exposure to violence has a profound and lasting influence on children's health beliefs and experiences. This paper addresses long- and short-term strategies for intervention.

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Violence is a serious health problem in our homes, our communities, and our world. While it is difficult to determine the number of children who grow up amid domestic violence, it has been estimated that one in four assaults on women each year is committed by the male partner (Statistics Canada, 1998). Rodgers (1994) reports that, in Canada, children were witnesses to almost 40% of wife-assault cases and that 61% of these attacks had resulted in harm to the woman.

It is equally difficult to estimate the number of children who witness war-related violence. Figures on the extent of global conflict vary considerably, depending on one's definition. However, the US National Defense Council Foundation (1996) suggests that as many as 70 wars are being waged in the world today, forcing millions of people to seek refuge outside their native countries. According to the United Nations High Commissioner for Refugees (UNHCR) (1993), there are about 17 million refugees and 27 million displaced persons throughout the world. Current Canadian policy is to admit 225,000 newcomers annually. Approximately three quarters of these are women and children.

Given these figures, it is reasonable to assume that many children are growing up in an environment where violence is an integral part of life, where danger is common, and where interactions are chaotic and unpredictable. The carefree life depicted in Norman Rockwell's paintings — children swinging on tires suspended from trees, bicycling along streets lined with white picket fences, lazily fishing in the local creek — eludes many of the world's children. The life phase known as childhood, typically thought to be relatively free from worry, stress, and violence, bears little resemblance to the world portrayed by Rockwell. Many children in the modern world are forced to confront a darker side of life. At a time when they should be attending to their developmental tasks, many are involved in a daily struggle to survive.

Today, violence is recognized as a problem for all age groups, socioeconomic groups, cultures, and geographic regions. Whether violence is expressed in overt or subtle ways, in the home or on the battlefield, its effects on the health of individuals, families, and communities are becoming increasingly clear. Until recently, violence was viewed and studied primarily as a social and political concern; its conceptualization as a significant public health problem has received attention only in the last decade. The contributions of many nursing leaders (Campbell & Humphreys, 1993; Henderson, 1990; Hoff, 1990; Sampselle, 1991) have helped bring it firmly into the domain of nursing.

Children who witness violence have been described as its "unintended recipients" (Rosenbaum & O'Leary, 1981). Because such children do not bear the physical scars typically seen in those who are abused directly, researchers and health professionals have largely overlooked their needs. However, investigators examining the phenomenon of post-traumatic stress disorder (PTSD) have shown that children may be traumatized by stressful events that they experience either directly or indirectly, including being witness to them (Richters & Martinez, 1993; Saigh, 1991). The disturbing reality is that children who witness violence may face many of the same difficulties and challenges as those who experience it directly (Jaffe, Wolfe, & Wilson, 1990). These effects include physical and emotional health problems, either chronic or transient.

While it is known that many children suffer a multitude of adverse effects of exposure to violence, little is understood about children's constructions of health when violence is woven into the fabric of daily life, or about how health is experienced and understood in this context. If nurses are to help children make sense of events or experiences that have the potential to endanger their physical and emotional health and well-being, we must gain an understanding of the interplay between violence and health.

The purpose of this paper is to address the research question *How is health understood and experienced by two groups who have grown up amid violence, children of war and children of battered women?* The data presented here are part of a larger critical narrative study of how these two groups make sense of their experiences. That study identified common themes and areas of divergence among children who had witnessed violence in these two distinct contexts (Berman, 1996, 1999). In the present paper, data regarding children's ideas about health and their thoughts regarding the relationship between violence and health will be presented and discussed.

Review of the Literature

Health is experienced and learned through individual, family, social, and cultural factors. It may be presumed that these factors are different for children regularly exposed to violence than for those whose lives are relatively violence-free, or that growing up amid violence has some bearing on children's ideas about the meaning of health and their health experiences. In order to evaluate this idea, it is necessary to know how children who have not lived amid violence think about and experience

health. This review reflects a search of databases in the disciplines of nursing, psychology, sociology, and education.

Children and Health

Several researchers have investigated children's concepts of health and illness, utilizing Piaget's stages of cognitive development to describe how children's understandings change over time (Bibace & Walsh, 1979; Nagy, 1951; Perrin & Gerrity, 1981). Their studies reveal a progression in children's ideas about illness, from concrete to more highly abstract notions. For the most part, these studies have been based upon a medical model in which health is viewed as the absence of illness and the focus has been almost exclusively on the development of illness concepts.

In one of the few studies focusing on concepts of health as well as illness, open- and closed-ended interview questions were administered to 100 healthy children aged 8 to 14 (Altman & Revenson, 1985). Personal experiences with health and illness were found to significantly influence their ideas and beliefs. Overall, the vast majority did not consider health a particularly important life concern, a finding also reported by Dielman et al. (1980). The children in this research defined health as "feeling good" or being in good physical or mental condition. Behavioural factors, including eating properly, exercising, maintaining good personal hygiene, and getting enough sleep, were seen as pivotal to staying healthy. No gender differences were noted. The sample in this study was 90% white, from primarily middle- and upper-middle-class families.

Sleet and Dane (1990) describe the perceived components of health among adolescents aged 12 to 17. Thirty-nine attributes are described under the categories of physical, social, and emotional health. The authors conclude that health cannot be narrowly defined, stressing that adolescent health status is dependent upon social and emotional adjustment as well as physical growth and development. They also recognize that the context in which adolescents live provides an important backdrop for wellness. Similarly, they emphasize the role of the family as nurturer and the need for adolescents to feel loved and content in their home settings. They provide no descriptive information on the adolescents studied.

Researchers who have examined gender-based differences in health beliefs report contradictory findings. Dombek (1991) found no gender differences in his sample of 79 healthy children and 108 children with

chronic illnesses aged 5 to 12. In contrast, Farrand and Cox (1993) report notable differences in their research with children aged 9 and 10, with girls demonstrating a more positive health self-concept and engaging in health practices to a significantly greater degree.

Finally, several investigators have examined personal characteristics that influence children's health beliefs and behaviours, and have observed that self-esteem has a strong, direct effect on positive health practices (Lau, Quadrel, & Hargman, 1990; Yarcheski & Mahon, 1989). These researchers also note that family structure and parents' child-rearing practices influence children's health beliefs and practices.

Violence and Health

The precise manner in which exposure to violence affects health is not well understood. However, several researchers suggest that repeated exposure to violence may result in long-lasting or even permanent negative effects on brain organization, including impulsive behaviour, increased anxiety, and sleep disturbances (Richters & Martinez, 1993; Schwarz & Perry, 1994). Older children and adolescents may act out with suicidal behaviours, substance abuse, delinquency, prostitution, truancy, violent crime, and self-mutilation in an effort to relieve intense emotional pain. Other, less tangible, consequences of growing up in dangerous environments include developmental impairment, emotional trauma, fear, hatred, and fatalism (Garbarino, Dubrow, Kostelny, & Pardo, 1992).

The effects of childhood exposure to violence appear to persist for many years. Although there is considerable debate about the extent to which violence in childhood contributes to violence in adulthood, there is some indication that men who abuse their wives were often abused as children or had witnessed the abuse of other family members. Similarly, victims of wife assault often report that they had been abused as children or had seen other family members being abused (Jaffe et al., 1990; Widom, 1989).

There can be little doubt that the occurrence of violence has both short- and long-term effects on health. However, little research has focused on how exposure to violence influences children's health beliefs and practices, or on whether the influences are similar among children who grow up amid different forms of violence. Furthermore, while health perceptions and practices are likely influenced by diverse factors, little is known about how understandings of health are shaped when violence has been a pervasive and enduring aspect of childhood.

With respect to nursing research related to violence, a growing number of studies that reflect the unique perspective of nursing have been described in recent years. Consistent with nursing's holistic view of individuals and health, many nurse researchers have deviated from the dominant, pathology-oriented approaches so deeply entrenched in the disciplines of medicine and psychology (Campbell et al., 1993; Hoff, 1990). Instead, nurse researchers have tended to focus on responses to, and characteristics of, survivors of violence, as well as the interrelationships between physical, emotional, and behavioural responses. However, as Campbell et al. observe, most of this work has been with abused women. Few studies have focused on child witnesses of violence, notable exceptions being Erickson and Henderson's (1992) and Humphreys's (1993, 1995) work with children of battered women. In view of current statistics on violence, it is likely that nurses, regardless of where they work, will interact with these children and their families. Developing a means to attend to the health of this group is an important nursing challenge.

Method

Theoretical Underpinnings

The theoretical perspective guiding the investigation was a synthesis of ideas from critical theory and narrative inquiry. Within a critical framework, the researcher seeks not only to understand and describe phenomena of interest, but to question, challenge, and examine strategies for change (Berman, Ford-Gilboe, & Campbell, 1998; Thomas, 1993). In contrast to the aims of control and prediction in postpositivist research, or description and understanding in interpretive research, a primary aim of research conducted within the critical paradigm is to bring about emancipatory change. Such change may occur either at an individual level, as in consciousness-raising, or at a broader structural level, or at both levels.

Although narrative research has not played a major role in the development of nursing science, there is growing recognition of the merits of storytelling both in nursing (Meleis, Arruda, Lane, & Bernal, 1994; Sandelowski, 1991; Stevens, 1993) and in the social sciences (Mishler, 1986; Polkinghorne, 1988; Van Maanen, 1988). For Maines and Ulmer (1993), narrative is a human and social act designed to make sense of our experiences. While it may take many forms, the narrative generally consists of a chronological ordering of events and an attempt to bring cohesion to those events. In *Tales of the Field,* Van Maanen uses the term "critical tales" in describing narrative approaches within a crit-

ical framework. The aim of such tales is to give voice to individual experiences and meanings but to examine them in a social and political context. This intersection of critical and interpretive approaches was at the heart of the current investigation. By participating in interviews, the children engaged in reflection and critique as they examined the meanings of health in their own lives and contemplated the relationship between violence and health generally.

Sample

A purposive sample of 16 children of war and 16 children of battered women, aged 10 to 17, participated.

The children of war group comprised 11 girls and five boys from 14 families who had fled to Canada from Bosnia ($n = 7$), Burundi ($n = 2$), Somalia ($n = 5$), and Liberia ($n = 2$). The children from Bosnia were Muslim and those from Burundi were members of the Tutsi minority group. Ten families had incomes below $20,000; all except two were dependent on public assistance. While many of the parents were highly educated and had held professional positions in their native countries, few had found jobs in North America.

The group of children who had witnessed woman abuse comprised nine girls and seven boys from 12 families. Ten children were Canadian-born and could not identify their ethnic background; two had emigrated to Canada from Eritrea as young children; one was First Nations (Ojibwa); and two were second-generation Eastern European. Like those of the children of war, the majority of families (9) in this group had incomes below $20,000; all except three were on public assistance.

All participants had witnessed violence. Some of the children of battered women had also been abused themselves. None of the children were living amid violence at the time of the interviews. The children of battered women were no longer living with their mother's abuser, and all the refugee children had been living in North America for between 1 and 5 years. While all the children spoke English, the letters of explanation and consent forms were translated into the family's first language.

Several strategies were used to recruit participants. The children of battered women were identified primarily through two agencies in southwestern Ontario. One of the agencies offered a group program for child witnesses of woman abuse of which I had been a volunteer facilitator. With the assistance of the agency director, potential participants

were identified and approached by the program coordinator. The other agency was a transitional housing project for women who had left abusive relationships, the director of which served as a recruitment support.

The recruitment of children who had been witnesses to war proved more difficult. The elimination of federal funding for many immigrant and refugee programs precluded the cooperation of key agencies. I therefore contacted several cultural and ethnic groups directly. As a result, leaders from the Bosnian, Burundian, Somali, and Liberian communities endorsed the study and agreed to contact families and to translate letters of explanation and consent forms into the family's first language. Informed consent and assent were obtained from the parents and children. Often, the families assisted in the recruitment of additional participants. This "snowballing" sampling technique proved extremely effective.

Procedures

All participants took part in two autiotaped interviews. In the first interview they were questioned in order to elicit stories about their lives before, during, and after their exposure to violence. Specific questions concerned their perceptions of their past and current state of health, the meaning of health, strategies to become or to stay healthy, and perceived impediments to being or becoming as healthy as they would like to be. Probes were used to encourage elaboration, and, when appropriate, I shared information about myself. All participants were given the choice of being interviewed alone or in groups of three or four. Most preferred to be interviewed alone. Four group interviews were conducted. With the exception of two girls from Bosnia who asked to be interviewed together, the groups consisted of siblings. Two weeks after the interview, I met again with the children to share and discuss emerging themes.

Data Analysis

The narrative data were analyzed using methods described by Riessman (1993) and Mishler (1986). As well, the NUD*IST (Non-numerical Unstructured Data – Indexing, Searching, and Theorizing) software program was used in organizing the data. The audiotapes were transcribed verbatim. Because narratives are often long and may contain many comments not germane to the research, narrative reduction is necessary (Riessman), resulting in what Mishler calls the "core

narrative." Labov's (1982) framework was employed to identify story components, namely orientation, plot, evaluation, and resolution. The narratives were read several times, with attention to the children's thoughts, experiences, feelings, perceptions of what occurred, and responses to these events. Similarities and differences among individuals and sample sub-groups were noted. Ideas concerning health were content analyzed for common themes.

Lather (1991) suggests that negotiating meaning helps build reciprocity. In the current study, the children were given an opportunity to review their narratives and make additions or changes. Emerging analyses and conclusions were shared and discussed, individually and in the groups, thereby allowing the children to participate in the construction and validation of meaning.

Results

The question "What does health mean to you?" elicited a wide array of beliefs and images. Frequently, I was asked what I meant, and typically I replied that health can mean different things to each of us and I was interested in knowing what it meant to them. The children required time to articulate their ideas, but through the processes of dialogue and reflection they shared thoughts that were perceptive, sometimes poignant, and always honest.

The comments of the children of war were similar to those of the children of battered women, and in some respects were also similar to the ideas attributed to children who have not grown up amid violence. However, for the participants the experience of violence was interwoven into their thoughts and feelings about health. A small number depicted health as a reflection of their physical state and several spoke of health as a holistic and multidimensional phenomenon. More commonly, however, they discussed health as a necessity for everyday survival. Four categories, or themes, emerged: *not being sick, being able to do what you want to do, being mentally healthy and happy and stuff like that,* and *just getting through the day.* In the following passages, all of the names are pseudonyms, many of which were chosen by the children.

Not Being Sick

A few participants described health as the absence of disease or sickness. Included in this category was the belief that health is the absence of illness or symptoms, the absence of the need for medications, and being "normal." This perspective is apparent in the description of

health articulated by 13-year-old Andrew. "You know, needing medicine and being sick and stuff like that. Is that the sick that you mean or the health that you mean? Well, what I think about, I just think of being sick and getting better."

Medina, a 15-year-old girl from Bosnia, also described health primarily in terms of the absence of physical illness. She identified behaviours that might prevent illness. "Well, I don't know. Health is kind of like being normal or something. People who are normal are not sick. It's very important, because everything you can do when you are healthy you can't do when you are sick or having some problems or something." She viewed health as valuable and desirable, as well as the "normal" and expected state of affairs. Similarly, Monique, from Burundi, stated that being healthy meant being "in good condition, with no disease."

Being Able to Do What You Want to Do

The idea that health is a prerequisite for participation in recreational activities was expressed by almost all of the children. As Medina succinctly stated, "Without it, we can't do the things we'd like to do. With it, we can." They described their participation in sports and other recreational pursuits, and noted such measures as eating well, maintaining good hygiene, and getting sufficient sleep as strategies for achieving and sustaining health.

Stjepan, an 11-year-old from Bosnia, related a poignant story that illustrated for him the meaning, and the importance, of health. Stjepan's identification with children still in Bosnia added to his appreciation of his own good health.

> *It means a lot to me. If I had no legs or arms I would just have to sit here in the house. Last week me and my mom were watching this show about some guy from our country who was bombed and had no legs and just one arm...and that's how he went to school and stuff. It was a small child, like 3 years old. So that made you think about being healthy and the kind of things that you can do with two legs and two arms.*

Several children described various activities that they currently enjoyed, adding that if they did not have their health they would not be able to engage in them. Thus these children viewed health as necessary for participating in sports, social events, or other recreational pursuits.

Being Mentally Healthy and Happy and Stuff Like That

Some of the children depicted health as a multidimensional phenomenon affecting everything we do. Andrew said, "I guess it's just like being mentally healthy and happy and stuff like that." Seth's view of health clearly went beyond one's physical state: "I guess just mainly physical and emotional okay-ness. I think people that haven't known abuse and don't know about it would say that health is just about physical well-being. And I know that there is emotional in it too."

Four daughters of battered women described health holistically. One girl described health as "how you view yourself." Another said, "It has to do with, like, how your body is doing, how your stress is taken in. I think it includes your mental awareness and, like, your health affects you mentally and physically both." A third girl observed that health was "being happy, like having a healthy house. Like everything's clean. There's a lot of different healthy things. Like your body could be healthy and everything."

Erica, 14, described her home as a cold and barren place where family members rarely spoke to one another. She viewed her father as domineering, lacking in warmth and affection. Although not physically abusive, he would constantly engage in verbal assaults against Erica's mother and older sister, who ran away at the age of 17 and never returned home. Erica admitted that only in retrospect could she see that, in fact, she had been quite unhealthy during her early years.

> *I thought I was healthy, but now I see that I wasn't. I had good physical health, but I didn't have emotional or mental health. I can see that I wasn't healthy now. I think violence affects health a lot more than people think. People don't think it's a big deal, but they don't understand that it is.*

Monique, 17, had come to Canada from Burundi in 1995. For her, being healthy meant being "in good body." Asked whether she considered herself to be healthy, she replied, "Like, physical, yes. Not emotionally. Physically I'm fine." Claudine, a 14-year-old girl from Burundi, responded similarly: "I think it's when you are not sick and when you are happy. For me it's when you are happy."

Just Getting Through the Day

Most often, however, the children provided more modest depictions of health. Because of their experiences, they felt healthy when they were simply able to get through the day. Health was viewed as necessary for everyday functioning, for being able to sleep through the night, and for

feeling safe. Although no longer living in a violent environment, many still suffered both physically and emotionally. For many years 13-year-old Seth had seen his father physically and emotionally abuse his mother. Although his parents had been divorced for almost 2 years, his family was still enmeshed in court battles over support payments. Seth described how he still became thoroughly immobilized dwelling on thoughts about his father.

> *A lot of the times I feel so bad that I won't want to do anything. I won't want to go out and run or play sports. I just sit at home and eat. And a lot of the time I don't want to eat healthy stuff because I don't care any more. Like, why bother, I'm so down. Sometimes it's school, I'm really loaded with work or somebody is being a dickhead. Recently it's been the court. I've stayed home six times in the past month. After court I felt so bad that I didn't really want to go to school. Today I didn't feel very good and I needed to work some stuff out.*

> *There's been instances that I didn't feel very well. I felt really tired because emotionally I was exhausted. It's just been overloading me. I haven't been able to do anything. I didn't go to school those days and I didn't socialize with anybody. I sat at home and did nothing, and just sat there and thought about it [his father]. It's really hampered me physically. I haven't shown any signs of it but I've just been feeling really bad, and my stomach ache this morning I think was caused by emotional stress. That's probably happened a couple of hundred times in my life because of emotional stress when I was younger. It's not just a stomach ache, I've just felt not really depressed but kind of motionless and energyless. Not really tired, just not wanting to move, not wanting to do anything. And I haven't.*

Seth's comments revealed the profound sadness and loss he continued to feel as a result of his father's violent behaviour and his parents' subsequent divorce. Although he no longer lived amid violence, Seth continued to have difficulty with the routine of everyday life, to the point of feeling thoroughly incapacitated, and continued to endure myriad physical and emotional problems.

Seth's 15-year-old sister, Dakota, added her perspective that health was incompatible with violence. "I don't think that an abusive family is healthy. I would say it's an unhealthy family and if the abuse does go on it's not really healthy because you get hurt, and you usually don't forget it." For Dakota, health entailed "being someplace where you can feel safe and where you don't have to worry about everything all the time. If you're in a safer place, you don't have as much stress and you feel better."

Mardelle was a 15-year-old who had witnessed the abuse of her mother by two men, first her biological father and later her mother's

live-in boyfriend. Mardelle had only vague memories of her life when her parents were still married, and she spoke mostly about the violence inflicted by her mother's boyfriend. She readily acknowledged that the years when he lived with them were not a healthy time in her life.

> *I used to stay up late all the time, thinking that she was with him, and thinking of what am I going to do if...just thinking of different things. Like if he takes a knife to her or something, and then I'm going to stab him, stuff like that. I'd stay up all night till 6 o'clock in the morning and then I'd go and have my sleep. Now it's like I can shut my eyes at 9 and wake up at 7 o'clock in the morning. To me that's healthy.... Now I wake up and I'm just awake and ready to go.*

Donna and Lucy were sisters, aged 15 and 13. Their father was never married to their mother and so had never been a prominent figure in their lives. Their mother's boyfriend, Kenny, lived in their home for many years. Although the sisters liked him initially, both explained that he became abusive shortly after he moved into their home. The verbal and physical abuse was directed towards them as well as their mother. The idea that violence and health cannot co-exist was implied in Lucy's comments.

> *I feel really healthy when I'm not around Kenny. I feel happier. When I'm around him I always have stomach aches. I feel like when he's around we're all scared and we just sit around and don't say nothing. When Kenny lived with us, I couldn't sleep because I was scared that he'd come in and say I did something wrong. Because we'd have to face the wall sometimes. And if I lay the wrong way I was scared.*

Like Lucy, Donna viewed Kenny's violent behaviour as detrimental to her health and well-being. She not only spoke of the effects of Kenny's behaviour while he was still living with them, but asserted that her health still suffered as a result of the years he was in their home.

> *Well, physically I feel a lot better. I have a lot more friends. I feel more free. But I'm still not very comfortable with who I am. I feel that since I've been through a lot it's just hard to deal with. Because with Melissa and Billy [two younger siblings, the biological children of her mother and Kenny] having to visit him, we are still not through with all the courts and everything. And it just keeps bringing back more bad memories. It just fills my mind. It's hard at school too.*

Like the children of battered women, the children of war were confronted with an assortment of day-to-day challenges. Although no longer living in a war zone, they continued to be haunted by painful and disturbing memories. During their years of living amid the conflicts in their homelands, they were engaged in a daily struggle to survive. Now they were secure in the knowledge that they would be provided

with sufficient food and water and no longer lived with the threat of bombs and other forms of terror. Yet that sense of security is fragile and, as they explained to me, easily threatened. For example, during the study Quebec held a referendum on separation from Canada. Several children described to me their fear that this would lead to the outbreak of war. Having just fled from war, this prospect was terrifying to them. Further, despite the relative safety and security they now enjoyed, their nightmares and fears persisted. Seemingly innocuous events like fireworks on Canada Day triggered fear. Intrusive thoughts were commonly described. As was the case with the children of battered women, "getting through the day" was an ongoing challenge.

Monique's family was still in Burundi. For her, concern for them precluded the possibility of health for herself. "I think about the war and my family. It is worse when I am alone, everything comes back, I think and I think, many times I cry and get upset." Monique lived with a young woman from Rwanda whose experience had been similar to her own. Consequently, they were able to empathize and derive strength and comfort from one another.

The interrelationship between health and violence was evident in the words of Claudine, who had cousins and grandparents still in Burundi. "When you are here and there is a war some place, and I think that a person is dying or has died, and you see things on television, to me that is not health." She added that she had recurrent headaches that tended to strike when she was crying. Asked what she cried about, she said, "When I hear my mom saying that it's getting bad in Burundi or something. Or when I think that some people are dying, I think it is a good thing coming here. But I just wish that there wasn't a war and that we didn't have to leave Burundi." Similarly, the persisting challenges in getting through each day were clear in the words of Maja, from Bosnia. When asked if anything interfered with her health, she stated:

> *Yes, sometimes emotional problems. That's the only thing that bothers me sometimes. Well, sometimes when I think about everything that happened to me, I always start crying. And then I feel like I'm not able to do anything...like, not homework, not anything in the house, not to go out with my friends or something. I just feel like a really sick person. I'm not ready for anything. It always happens in the afternoon. I don't know, it's probably just feelings I have.*

Health concerns were also apparent in responses to questions not explicitly related to health. Almost all of the refugee children described being teased and bullied by their new classmates, particularly during their first weeks and months in North America. For most, these behav-

iours were short-lived, subsiding as the children became more skilled in speaking English and more knowledgeable about cultural expectations in the playgrounds and classrooms. However, the children from African countries tended to describe more persistent difficulties in gaining acceptance. Ismahan, a girl from Somalia, spoke openly about racism, while Claudine described ongoing feelings of loneliness and difficulty making friends. Some were inclined to attribute peer hostility to their refugee status rather than the colour of their skin, but all experienced some degree of unwanted differential treatment. The participants were clear about the ways in which the violence they had witnessed had been detrimental to their health and well-being. Although previously they had not given this issue explicit consideration, and initially seemed surprised by the questions, their interest in exploring the topic was evident. They took their time as they considered the issues and articulated their ideas, and appeared to genuinely welcome an opportunity to think about the relationship between their own experiences, health, and violence.

Discussion

The findings of this study reveal that children's constructions of health are sophisticated and intricately woven into their experiences of violence — that living in a violent environment has a profound influence on how children understand and experience health. The participants viewed health as the absence of illness, as having physical as well as emotional dimensions, as necessary for engaging in pleasurable pursuits, and, most commonly, as a prerequisite for getting through the day. While the first three ideas or themes are consistent with those reported in the literature as expressed by children who had not grown up amid violence, the latter notion is unique to this group. In the context of the lives of these children, it is a profound idea, and one that has important implications for nurses and other health professionals.

The participants in this research depicted health and violence as incompatible. They conceptualized health as vitality and desire, as enabling them to move, act, make decisions, and participate in community life. Violence had rendered them inert and immobile; almost all of the children spoke about ways in which their health was compromised as a result of the violence in their lives. The problems they described, which persisted after they had been removed from the violent situation, included: (a) loss of sleep, (b) intrusive thoughts, (c) eating disturbances, (d) difficulty carrying on with daily routine, including school, (d) lack of energy, and (e) self-doubt and lack of confidence in them-

selves and in the world around them. These symptoms are consistent with the DSM-IV diagnostic criteria for post-traumatic stress disorder (PTSD). In addition, some children reported feeling excluded and racially discriminated against, although they did not typically construe such feelings within the realm of health.

Despite the similarities, there were fundamental differences both between and within the two groups of participants. The children of war endured their experiences collectively, with family and friends sharing the same bewildering and frightening emotions. In contrast, the children of battered women were forced to suffer alone, and in silence (Berman, 1996). While wars are carried out in the public arena, woman abuse typically occurs in the privacy of the home. For the children of war, during the most intense fighting all semblance of normal life came to an end. Schools closed and they could not go out and play. In short, there was no pretext of life as they had known it. For children of battered women, on the other hand, life did not come to an end. They had to get up each morning, attend school, and develop elaborate schemes to ensure that no one found out what was occurring in their homes.

Among the children of war, important differences are also noteworthy. The refugee children who participated in this study came from four countries, bringing with them diverse cultural beliefs, practices, and traditions regarding health, different from one another and, frequently, different from those embraced by Western society. The inclusion of children from such disparate countries in a single study might seem questionable. However, as Meleis (1996) cogently argues, understandings and experiences of health are derived from many contexts, of which culture is just one. When cultural heritage is the unit of analysis, broader social and political structures may be overlooked. In the current study, all of the children of war were confronted with many traumatic events as a result of their shared experiences as refugees. Although care must be taken not to "essentialize" the "refugee experience," children and adolescents who have fled their homes and countries because of war share many health experiences that may transcend differences based solely on cultural heritage or ethnicity.

There is growing evidence that violence jeopardizes health and well-being (Garbarino et al., 1992; Jaffe et al., 1990), yet this important relationship receives little attention. The problem is intensified among children who are witnesses to violence, because, unlike children who are abused directly, they do not bear visible scars and are thus easily overlooked. It is noteworthy that the Ontario Child Health Study, one of the largest provincial surveys of child health, included no questions

on violence in children's lives. In view of current statistics on woman abuse, such an omission represents a serious limitation.

Nurses must be prepared to develop a collective consciousness about the influence of violence on health and children's understandings of health when violence has been a part of their everyday reality, and to implement short- and long-term strategies to help these children. Humphreys (1993, 1997) has compiled a comprehensive list of interventions aimed at primary, secondary, and tertiary prevention for children of battered women, many of which are also relevant for children of war. Very briefly, at the primary level interventions are aimed at eliminating all forms of violence, either at the structural level through interaction with policy-makers or at the grassroots level through education and work with individuals, families, and communities. Through such initiatives, the ways in which society condones and supports violence can be examined, to help children understand and challenge war and woman abuse. At the secondary level, initiatives are intended to prevent recurrence of violence and to identify those in need of help. At the tertiary level, the goal is rehabilitation and establishment of long-term services. Humphreys (1997) provides a more detailed discussion of these points. Several investigators describe the advantages of group programs, particularly for children of battered women (Peled, Jaffe, & Edleson, 1995; Sudermann, Jaffe, & Hastings, 1995). The programs offer these children an opportunity to: talk about their experiences; gain insights into the causes of violence and learn that they are not responsible for what has occurred in their homes and their countries; learn basic safety skills; and derive a sense of solidarity as they begin to see they are not alone. As well, a group can provide a context for identifying and evaluating strategies for dealing with the emotional turmoil caused by witnessing violence. Through such validation of their thoughts and feelings, children gain self-esteem and, ultimately, become empowered. Although there exist fewer descriptions of programs for children of war, indications are that group programs for this population may be equally effective (de Andrade, 1992).

Regardless of the specific interventions selected, some principles should apply to all: (1) willingness to listen to children in a sincere and non-judgemental manner, (2) respect for the child and recognition of his or her strengths, (3) willingness to try non-traditional approaches with children from diverse cultural backgrounds, (4) awareness of the political dimensions of violence, with a view to enabling the child to develop age-appropriate understandings of political and social contexts, and (5) development of strategies to help children find health in an unhealthy world.

Conclusion

The health experiences of children who grow up amid violence are, in fundamental ways, incongruous with Western notions of childhood. Although this stage of life is a social and cultural construction, the prevailing image of childhood is rooted in the humanist tradition characteristic of Western industrialized society. Within this schema, childhood is a time of innocence and vulnerability, a time when children are not meant to experience or witness violence. Clearly, however, many do.

Because of the many ways in which violence is supported and encouraged in our society, the health problems of these children should not be viewed as private problems. Meleis (1990) urges nurses to reconceptualize health as a community issue and as a social and societal obligation rather than a personal objective. The inherent limitation of the dominant view of health as an individual concern is that it leads us to encourage our clients to adjust and adapt to the worlds around them, regardless of how fundamentally unhealthy those worlds may be. Failure to acknowledge and critique the ways in which violence precludes the attainment of health inadvertently results in a tacit acceptance of such behaviour. As nurses, we must be vigilant in our efforts to make this world a more peaceful one, and to challenge a status quo that allows violence to flourish. Strategies should go beyond short-term interventions with those affected, to include lobbying for policies, laws, and procedures that ensure that children who witness violence receive the protection they deserve and so badly need.

While the results of this study show that children who live amid violence encounter a range of health challenges, we should not presume that long-term harm is an inevitable outcome. Through their struggles to find meaning from their experiences, the children demonstrated remarkable courage and strength. While wounded and hurt, they revealed a capacity for healing. I would like to close this paper with the words of a girl who came to Canada from her home in Bosnia in 1993.

> *Human greatness is the ability to forgive. The world would be very strange if people only gained desire for revenge. I read what happened in World War II. It was the same: occupation, killing, destroying. War stopped and people have started to live a normal life. They could live it because they were capable of forgiving. I cannot forget people's faces and eyes looking toward the heavens. I cannot forget children's tears, people's hands waving goodbye, and my father's words, "See you soon," on the day when my mom, my brother, and I, between bombs and gunshots, left Sarajevo. After that I pray to God every night never again will there be a war anywhere on earth, please. Now is the time for happiness, understanding, and forgiveness.*
>
> – Sejla, age 12

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Soutenir le système conjugal pendant la période périnatale : Une expérience de recherche participatoire

Johanne Goudreau, Fabie Duhamel et Claude Beaudoin

This article presents the process and results of a participatory study intended to develop and evaluate preventive interventions for couples in the process of becoming new parents. A total of 21 participants, 4 physicians, 8 couples, and an investigator, studied the interventions using a research approach derived from a constructivist paradigm, the fourth generation evaluation. Employing a family intervention model, the nurse guided and contributed to the investigation. The results enabled physicians to refine their perinatal care and facilitated the couples' adjustment to the arrival of their first child. The interventions, the research process, and the use of a family nursing model are promising for nursing applications.

Cet article vise à présenter le processus et les résultats d'une étude participatoire qui visait à développer et à évaluer des interventions préventives qui s'adressent aux couples pendant la période périnatale. Vingt-et-un participants dont 4 médecins, 8 couples et la chercheuse ont étudié ces interventions dans un processus de recherche qui s'inscrit dans le paradigme constructiviste, l'évaluation de quatrième génération. La chercheuse a guidé le processus de recherche et y a contribué en utilisant un modèle d'intervention en soins à la famille. Les résultats ont enrichi les pratiques préventives périnatales des médecins participants et facilité l'adaptation des couples lors de l'arrivée d'un premier enfant. L'application du modèle de soins infirmiers à la famille, les interventions et la stratégie de recherche utilisée sont prometteuses pour les infirmières.

Introduction

Certains auteurs soutiennent que des soins familiaux basés sur les connaissances actuelles au sujet des familles doivent être intégrés aux interventions de prévention primaire comme celles offertes par les infirmières et les médecins en périnatalité (Bomar, 1996; Duffy, 1988).

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Par ailleurs, dans sa politique de périnatalité, le ministère de la Santé du Québec (1992), suggère que les cliniciens soient formés à l'effet « ... d'accroître la qualité de l'expérience des femmes enceintes, des mères, des pères et des bébés, en adaptant l'intervention à leurs besoins de soutien continu, et ce selon une approche globale et une perspective familiale » (p. 25).

L'auteure principale (JG) de cet article enseigne l'approche familiale à des infirmières et à des médecins depuis plusieurs années. Or, le témoignage de ces cliniciens ainsi que l'observation de leurs pratiques démontrent qu'ils n'appliquent pas ces apprentissages. Selon eux, leurs contextes de travail comportent des contraintes qui rendent l'approche familiale impossible à appliquer telle qu'ils l'ont apprise. L'utilisation d'une stratégie de recherche basée sur une collaboration étroite entre cliniciens, patients et chercheur a permis d'identifier des interventions qui s'intègrent plus facilement aux pratiques cliniques courantes.

L'étude dont il est ici question visait ainsi à enrichir les pratiques de quatre médecins de famille lors de leurs consultations périnatales en y intégrant des interventions utiles pour les couples et faisables pour les médecins. Une méthodologie de recherche inspirée de l'évaluation de quatrième génération proposée par Guba et Lincoln (1989) a permis d'identifier de telles interventions.

Cette étude enrichit le domaine des sciences infirmières sur les plans de la clinique et de la recherche. Bien qu'au Québec, ce sont les médecins qui constituent la première ligne de consultation en périnatalité et qui assurent la plus longue continuité de soins pendant cette période, les infirmières aussi offrent des soins périnataux. Elles animent les cours prénataux et les sessions d'information aux nouvelles mères et, dans certains milieux, elles assurent une partie du suivi postnatal. De plus, ailleurs qu'au Québec, ce sont des infirmières qui effectuent entièrement le suivi périnatal. Au plan de la recherche en sciences infirmières, la méthodologie utilisée pour cette étude constitue une avenue intéressante pour rapprocher la recherche et la clinique. Il s'agit là d'un besoin plusieurs fois exprimé par les infirmières.

État des connaissances

Le couple et la période périnatale

Des enquêtes transversales ont d'abord mis en évidence une diminution de la satisfaction conjugale suite à la naissance d'un enfant (Hicks, 1971 ; Spanier et Lewis, 1980). Puis, plusieurs études longitudinales ont

démontré que les insatisfactions des conjoints étaient reliées à des éléments comme la répartition des tâches et des responsabilités familiales, au temps consacré au couple, et au type d'interaction entre les conjoints. Deux de ces études (Belsky, 1990; Belsky, Lang et Rovine, 1985; Belsky, Spanier et Rovine, 1983; Cowan et al., 1985,1988) ont pu préciser que c'est la manière dont les conjoints effectuent les ajustements nécessaires au fonctionnement adéquat d'une famille avec un bébé qui influence la satisfaction conjugale.

Par ailleurs, les études de Cowan et Cowan (1987, 1992) comportaient l'expérimentation d'une intervention de prévention auprès de 24 des 96 couples participants. Les résultats de cette intervention démontrent que des couples qui deviennent parents peuvent bénéficier d'interventions qui visent à faciliter leurs échanges et à diminuer l'impact négatif de la transition sur la relation conjugale. Soulignant le rôle que pourrait jouer les infirmières et les médecins, ces auteurs recommandent donc spécifiquement des interventions de type « conseils préventifs » pendant la période périnatale. Selon eux, de telles interventions devraient viser à stimuler la réflexion et l'échange au sujet des croyances et des attentes des conjoints et l'anticipation des problèmes d'ajustement ainsi que les moyens d'y faire face. Ces résultats, basés sur un devis quasi-expérimental, soutiennent ceux d'autres études moins fortes sur le plan méthodologique (Aranoff et Lewis, 1979; Clulow, 1982; Wandersman, 1987).

L'apprentissage et la pratique de l'approche familiale

Qu'ils soient théoriciens ou cliniciens, ceux qui conseillent l'utilisation de l'approche familiale en soins infirmiers et en médecine familiale proposent des modèles calqués sur ceux de la thérapie familiale. Il s'agit de modèles qui exigent la réalisation d'évaluations familiales souvent complexes, l'identification de problématiques spécifiques et la mise en œuvre de plans de traitement précis. Pour l'ensemble d'une clientèle de première ligne, le rapport coûts-bénéfices de telles interventions est peu satisfaisant, puisque leur apprentissage et leur pratique systématique dépassent largement la disponibilité des cliniciens et les besoins mêmes de la clientèle.

Suite à une analyse systémique de ces difficultés d'applicabilité, analyse qui tient compte des aspects relatifs à l'apprentissage d'habiletés cliniques, à l'intégration de comportements de promotion de la santé et à l'application des résultats de la recherche, Sawa (1992) suggère que le développement d'interventions familiales de première

ligne passe par la recherche de type participatoire ancrée dans le paradigme constructiviste.

Comme l'expérience des personnes constitue le point de départ de ce type de recherche, les études constructivistes ne s'appuient pas sur un cadre théorique préalable. Ce n'est qu'au moment où commencent les activités de la recherche que des cadres théoriques connus peuvent enrichir le processus. C'est pourquoi, dans cet article, le cadre méthodologique est d'abord présenté, le cadre théorique le plus utile n'étant apparu qu'au cours des échanges avec les participants.

Cadre méthodologique de l'étude

Le paradigme constructiviste présuppose que la connaissance d'un phénomène résulte de sa construction continue dans les interactions entre les personnes concernées par ce phénomène. La recherche constructiviste exige donc la mise en commun des perspectives de ces personnes. Dans le domaine de l'évaluation, après avoir jeté un regard critique sur les courants qui ont marqué la recherche évaluative en éducation, Guba et Lincoln (1989) proposent l'évaluation de quatrième génération. Selon ces auteurs, puisqu'évaluer comporte des enjeux qui diffèrent selon les personnes concernées et qu'il ne saurait exister à priori une vision plus vraie ou plus valable que les autres, l'évaluation constitue une entreprise intrinsèquement sociale. Par la mise en commun des perspectives, la recherche évaluative constructiviste permet l'évolution des personnes et la transformation des interventions au cours du processus de recherche.

Selon cette conception, le chercheur principal est un partenaire dont le rôle consiste à organiser et à faciliter les échanges, à les enrichir de données nouvelles quand c'est nécessaire, à distribuer l'information à l'ensemble des partenaires et à soutenir la construction d'une intervention qui tient compte des remaniements effectués par l'ensemble. Sa perspective, c'est-à-dire son cadre théorique, ne constitue pas le point d'ancrage de l'étude. Il s'agit plutôt d'une des perspectives qui ne devra être apportée qu'au moment le plus utile pendant la démarche de recherche.

Une évaluation de quatrième génération consiste donc à mettre en œuvre un processus qui permet d'identifier les perspectives des participants quant à l'objet de l'étude (processus herméneutique) et qui favorise la mise en commun de ces perspectives (processus dialectique).

Guba et Lincoln (1989) suggèrent qu'une série d'activités (méthode de recherche) soit mise en œuvre pour soutenir un tel processus.

Dans l'étude dont il est ici question, ces activités consistaient d'abord à expérimenter, lors de consultations habituelles entre un couple et son médecin, des interventions potentiellement utiles pour les couples et faisables par les médecins. Puis, des rencontres entre la chercheuse principale (JG), les couples et les médecins, menées séparément et en groupe, permettaient la mise en commun des perceptions des participants au sujet de ces interventions. Ces activités sont présentées dans la section suivante.

Déroulement de l'étude

C'est dans la description du déroulement de l'étude que les éléments de la méthode, de la collecte et de l'analyse des données sont présentés en détail. En effet, ces éléments sont intégrés dans les activités effectuées par les différents partenaires ainsi que dans la manière dont les documents ayant servi à partager l'évolution de l'étude entre eux ont été produits.

Les participants

Le nombre de participants a été déterminé selon des critères de faisabilité de l'étude (p. ex. gestion du nombre de rencontres). Il s'agit d'un échantillonnage théorique (Strauss et Corbin, 1990), basé sur la pertinence du rôle des participants dans la problématique à l'étude et sur la qualité des données qu'ils peuvent fournir. Ainsi, les médecins recrutés avaient déjà constaté les difficultés spécifiques à l'inclusion d'un nouveau membre dans le système familial et s'étaient interrogés au sujet d'interventions préventives possibles. Par ailleurs, comme le rôle des couples consistait principalement à donner des rétroactions au sujet des interventions effectuées par les médecins pendant les consultations, il était nécessaire qu'ils soient suffisamment intéressés par le projet pour y être disponibles et qu'ils se sentent assez à l'aise pour y contribuer. De plus, selon Guba et Lincoln (1989), en plus de la pertinence de leur rôle dans la problématique, il faut aussi s'assurer que les participants possèdent les habiletés requises pour fournir des données de qualité.

La chercheuse a recruté les participants à l'étude dans son milieu de travail. Quatre médecins, deux hommes et deux femmes ont spontanément accepté de participer. Ceux-ci avaient une expérience variée

en obstétrique et assuraient le suivi des enfants après l'accouchement. Ils pratiquaient dans trois cliniques de milieux sociaux différents (urbain et semi-urbain). À partir de leur expérience clinique, ces médecins pouvaient témoigner d'une détérioration importante de certaines relations conjugales au moment de l'arrivée d'un premier enfant et des conséquences coûteuses de cette détérioration pour les familles : séparation, désengagement paternel, conflit ouvert entre les deux conjoints, etc. Par ailleurs, ils avaient constaté que des symptômes physiques rapportés par les nouvelles mères pouvaient être reliés à des difficultés d'ajustement du couple face à la présence du bébé. En tant que médecins, ils souhaitaient posséder des outils pour soutenir les nouvelles familles. Âgés entre trente et quarante ans, mariés ou en union de fait, les médecins avaient eux-mêmes récemment vécu la même transition que les couples ou la vivaient au moment de l'étude. Par ailleurs, ils étaient persuadés que la présence de deux parents en relation constructive constitue l'environnement idéal pour le développement des enfants et l'épanouissement des adultes qui choisissent d'être parents.

Dans les semaines qui ont suivi leur participation à l'étude, chacun des médecins a proposé le projet à deux couples de sa clientèle dont la période périnatale correspondait à la période prévue pour l'étude. Il avait été convenu qu'il s'agissait d'un premier enfant pour les deux conjoints. Quand ils avaient obtenu le consentement d'un couple, ils en faisaient parvenir les coordonnées à la chercheuse. Une première rencontre avec cette dernière, au domicile de chacun des couples, visait à présenter le projet de manière suffisamment détaillée pour obtenir un consentement éclairé. Tous les couples se sont définitivement engagés lors de cette première rencontre.

Pour deux des couples, la grossesse avait été une surprise qu'ils avaient dû apprivoiser. Pour un autre, bien que désirée au départ, la grossesse suscitait des regrets liés aux responsabilités qui en découleraient. Agés de 18 à 34 ans, les conjoints étaient mariés ou vivaient en union de fait depuis un an (2), trois ans (2), quatre ans (1), six ans (2) et 9 ans (1). Tous étaient autonomes financièrement. Tous pouvaient compter sur un réseau de soutien social, en l'occurrence leurs familles d'origine. Tous les hommes occupaient un emploi à temps complet. Six femmes sur huit travaillaient et désiraient reprendre leur travail après leur congé de maternité ; une terminait ses études et voulait travailler quelques mois après son accouchement ; une autre désirait rester à la maison.

Les activités

Les consultations. Seize consultations ont été étudiées dans le troisième trimestre de la grossesse, soit deux par couple, et treize consultations à l'intérieur de six mois après l'accouchement, soit deux pour cinq couples et une pour trois couples. Lors de ces consultations, le médecin et le couple procédaient tel que prévu dans le suivi médical habituel. Par ailleurs, il avait été préalablement convenu par tous les participants que le médecin tenterait des interventions pour explorer l'adaptation conjugale à l'arrivée d'un premier enfant. La chercheuse observait cette consultation à l'aide de la télévision en circuit fermé et identifiait les séquences d'interaction pendant lesquelles il était effectivement question de l'adaptation du couple. Chacune de ces consultations était enregistrée sur bande magnétoscopique et le *verbatim* transcrit.

Les rencontres couple-chercheuse. Immédiatement après la consultation, la chercheuse rencontrait le couple. Cette rencontre visait à recueillir leurs perceptions, commentaires et suggestions quant à la consultation globale, aux échanges sur l'adaptation du couple et aux séquences d'interaction spécifiques identifiées par la chercheuse pendant la consultation. Comme pour les consultations, les rencontres étaient enregistrées et le *verbatim* transcrit.

Après avoir visionné les enregistrements magnétoscopiques de la consultation et de la rencontre et lu la transcription du *verbatim*, la chercheuse en analysait le contenu selon une procédure décrite plus loin. Les intervalles entre les consultations-rencontres et les discussions avec les médecins ont varié d'une semaine à un mois.

Les discussions médecin-chercheuse. Pendant ces discussions, le médecin et la chercheuse examinaient, relativement à leur faisabilité pour les médecins, les interventions jugées utiles par les couples. Ainsi, les séquences d'interaction spécifiques, identifiées par la chercheuse pendant la consultation et commentées par les couples pendant la rencontre couple-chercheuse, étaient aussi commentées par les médecins quant à leur influence sur la conduite de la consultation (temps) et sur la technique d'entrevue (les mots, la formulation, le ton, le timing). Ces discussions étaient enregistrées sur bandes audio et le *verbatim* transcrit.

Les discussions en groupe. Les discussions en groupe avaient pour but de préciser et de raffiner les interventions étudiées précédemment, et de faire le point sur les éléments d'évaluation. Il y en a eu trois réunissant les médecins et une réunissant tous les participants. Les trois

premières ont eu lieu une fois après les seize consultations prénatales, une fois après huit consultations postnatales et une autre fois à la fin des consultations postnatales; celle réunissant tous les participants a été tenue à la toute fin du processus. En guise de préparation à ces réunions, chaque médecin et chaque couple recevaient un *rapport synthèse* de sa démarche dans l'étude. Chacun devait valider le contenu de ces rapports synthèses auprès de la chercheuse, avant la discussion en groupe. Par ailleurs, la chercheuse préparait une présentation de la synthèse globale du répertoire d'interventions, de l'évaluation et des interrogations apparues au cours des étapes précédentes.

Chacune de ces discussions en groupe a servi à approfondir les différentes catégories d'interventions et leur application, ainsi qu'à s'assurer du consensus des participants quant à leur évaluation. De plus, les éléments litigieux y ont été amenés et résolus ou reportés pour réflexion et discussion ultérieures. Un enregistrement sur bande audio a permis à la chercheuse de résumer ces discussions.

Collecte et analyse des données

La collecte et l'analyse des données visent à rendre compte des constructions conjointes qui émergent au fil du processus herméneutique et dialectique. Elles ont lieu simultanément au cours de la mise en œuvre des activités et de la production des documents.

Nous avons utilisé le logiciel QSR Nud-Ist (version 3.0) pour classifier les données. Ce logiciel de traitement de données qualitatives comporte un système d'organisation et un système d'analyse. L'utilisateur peut donc classer les données brutes et en faire l'analyse au fil du déroulement de l'étude. Par ailleurs, ce système d'analyse permet l'évolution de la codification et effectue en tout temps le repérage des données brutes dans le système d'organisation.

Nous avons codifié les transcriptions de *verbatim* des consultations, des rencontres, des discussions et des rencontres de groupe selon des catégories d'interventions qui visaient l'adaptation conjugale à l'arrivée d'un enfant et selon les commentaires des participants au sujet de l'utilité et de la faisabilité de ces interventions. L'élaboration de ces catégories a exigé l'utilisation de modèles théoriques. Plusieurs tentatives ont été faites qu'il est impossible de décrire dans cet article. Toutefois, au cours de l'évolution des interventions, nous avons utilisé le *Calgary Family Intervention Model* de facon de plus en plus efficace. Le tableau 1 présente d'ailleurs les résultats finaux selon ce modèle.

Tableau 1 *Les interventions présentées selon le CFIM*

	Intégrer le père	Explorer : questions circulaires	Informer	Normaliser	Souligner les compétences
Domaine cognitif	• chercher opinion du père • ébranler croyance que la grossesse et les soins au bébé sont des expériences exclusivement féminines	• attentes mutuelles face à l'accouchement et aux soins du bébé • fonctionnement conjugal pour résoudre les problèmes	• décrire les difficultés générales observées reliées à l'apprentissage de nouveaux rôles	• dédramatiser les « erreurs » dans les soins au bébé	• nommer les *patterns* de fonctionnement conjugal facilitants • relever les bons coups avec bébé
Domaine affectif	• observer et favoriser la complicité entre les conjoints	• réactions émotives de l'un et l'autre face à inconfort physique, aux difficultés conjugales et aux comportements de l'autre	• décrire les sentiments généraux observés face à un bébé et face au conjoint	• valider les différences dans l'expérience affective	• féliciter
Domaine comportemental	• insister sur la présence du père • s'adresser au couple • inviter le père à participer à l'examen physique	• réactions comportementales de l'un et l'autre face à inconfort physique, aux difficultés conjugales et aux comportements de l'autre	• planifier soins au bébé • planifier partage des tâches domestiques • planifier sorties en couple • encourager le dialogue		

(Wright et Leahey, 1994)

Les documents

Après avoir consulté et analysé les transcriptions de *verbatim*, la chercheuse produisait des documents à partir desquels l'étude pouvait continuer.

Les résumés-réflexions. Ces résumés visaient à s'assurer que les interventions étudiées lors d'une consultation, d'une rencontre ou d'une discussion soient fidèlement communiquées aux participants (après que les participants concernés aient validé un résumé, ce dernier était communiqué aux autres participants), de même que les commentaires sur leur utilité et leur faisabilité . Leur forme et leur contenu se sont raffinés au fil de leur utilisation. Dans leur forme finale, on y retrouve les sujets abordés par les interlocuteurs présents, les interventions spécifiques du médecin lors des consultations, regroupées en catégories, les commentaires des couples lors des rencontres (sur l'utilité des interventions et leur impact) et ceux des médecins pendant les discussions (sur la faisabilité des interventions et leur applicabilité dans la pratique quotidienne des médecins).

Les synthèses. Chacun des couples et chacun des médecins a reçu une synthèse de sa démarche lors de la période prénatale et une de sa démarche lors de la période postnatale. L'évolution du couple dans son adaptation périnatale, l'évolution des pratiques des médecins et la contribution spécifique de chacun à l'évaluation des interventions y étaient décrits. Tous ces textes ont été lus, corrigés et validés par les personnes concernées. Ensuite, des synthèses globales, une pour la démarche prénatale, l'autre pour la démarche postnatale ont été produites.

Le journal de bord

Il s'agit de cahiers dans lesquels la chercheuse a consigné les observations directes des consultations et ses réflexions spontanées lors des rencontres et des discussions. Elle y référait à chaque fois qu'elle rédigeait les résumés. Par ailleurs, elle y notait ses réflexions théoriques et des résumés de lecture qu'elle partageait avec les participants selon les besoins de la démarche.

Valeur scientifique

Une évaluation de quatrième génération doit répondre à des critères de qualité spécifiques, différents de la validité et la fiabilité des méthodes quantitatives. On parle de crédibilité au lieu de validité interne, de transférabilité au lieu de validité externe. La crédibilité d'une étude

s'établit quand les constructions décrites par le chercheur correspondent à celles émises par les participants. Dans cette étude, la participation prolongée (environ douze mois), l'observation soutenue (vingt-neuf consultations, rencontres couple-chercheuse, discussions médecin-chercheuse, trois discussions de groupe avec les médecins intervenants) et la vérification par les participants de tous les documents produits au cours de l'étude permettent d'assurer la crédibilité.

Pour assurer la transférabilité, les événements relatifs à l'évolution de la méthode ont été compilés. Par exemple, l'origine des choix des participants, les problèmes lors des discussions ainsi que leurs solutions, et l'évolution de la forme et du contenu des documents ont été inscrits au fur et à mesure, facilitant ainsi la description méthodologique. Par ailleurs, cette description détaillée de la méthode permet aussi d'en démontrer la rigueur et l'authenticité.

Enfin, pour hausser davantage la crédibilité de ces résultats, la chercheuse a progressivement enregistré ses propres idées tout au long du processus. De plus, elle a régulièrement discuté avec une personne ressource indépendante de l'étude au sujet de ses conclusions. Enfin, elle a procédé à l'analyse en profondeur des séquences d'interaction ou des interventions qui différaient de celles de la majorité.

Résultats

À partir de l'expérience des consultations, ce sont les échanges entre l'infirmière, les médecins et les couples qui ont permis la construction d'un répertoire d'interventions préventives visant les couples pendant la période périnatale. Parmi les cadres théoriques utilisés par la chercheuse pendant le processus de recherche, le CFIM (Wright et Leahey, 1994) s'est avéré particulièrement avantageux comme grille d'analyse des interventions. Le CFIM est basé sur les principes systémiques d'intervention développés par le groupe de thérapie familiale de Milan (Selvini-Palazzoli, Boscolo, Checcin et Prata, 1980), par Tomm (1987a, 1987b, 1988) et par les auteures du modèle elles-mêmes. Le CFIM constitue un cadre de référence permettant de structurer des interventions qui visent à assurer la promotion, l'amélioration ou le maintien du fonctionnement familial, dans les domaines cognitif, affectif et/ou comportemental. De plus, le modèle insiste sur la nécessité d'adapter les interventions aux besoins de chaque famille.

Ainsi que le montre le tableau 1, le CFIM a permis de regrouper les cinq catégories d'interventions qui se sont dégagées de la démarche de recherche, produisant une version du modèle plus spécifique à la pro-

motion de la santé des familles qui vivent la transition occasionnée par l'arrivée d'un premier enfant. Comme le spécifie le modèle, il s'agit d'interventions qui s'ajustent parfaitement à cette problématique familiale telle que présentée par les huit couples participants.

Intégrer le nouveau père aux échanges lors de la consultation

Dès la première consultation du projet, la non participation du conjoint a été relevée par le médecin et la chercheuse-infirmière ; cette observation a été confirmée par tous les couples, en particulier les pères, lors des consultations suivantes : *« Je regarde passer le train. »*, *« Je me sentais comme un bibelot (...) j'avais d'ailleurs décidé de ne plus aller aux consultations. »*, *« C'est elle la patiente. »* Ayant réalisé que cette lacune entravait l'exploration de l'adaptation conjugale, les médecins ont donc expérimenté plusieurs interventions pour faciliter la participation des pères lors de la consultation médicale. Ces interventions procédaient des domaines cognitif et comportemental et avaient des répercussions dans le domaine affectif.

Principalement, ils ont utilisé le pronom « vous » afin de s'adresser aux deux conjoints à la fois quand ils abordaient des questions conjugales et parentales. Ils ont aussi alterné d'interlocuteur, passant de la femme à son conjoint pour recueillir les points de vue ou les questions. Plus spécifiquement, ils ont encouragé et soutenu la participation des futurs pères à l'examen physique de leur conjointe, leur préparation à leur rôle pendant l'accouchement et leur participation aux soins de leur bébé et au partage des tâches domestiques. Selon tous les participants, l'intégration des pères aux échanges lors des consultations médicales a été suffisante pour qu'ils se sentent davantage associés à l'expérience, améliorant ainsi la complicité entre les conjoints.

Intégrer le conjoint aux échanges dans la consultation a constitué une catégorie d'intervention qui a favorisé la complicité dans le couple. Contribuant à transformer la consultation individuelle en consultation familiale, cette catégorie d'interventions a permis d'ébranler la croyance des conjoints et celle des médecins à l'effet que l'expérience de la grossesse constitue presqu'exclusivement l'expérience de la mère. Il s'agit là d'une croyance plus contraignante que facilitante pour l'adaptation du couple à l'arrivée d'un enfant (Cowan et Cowan, 1992). Dans le CFIM, la dimension des croyances est fondamentale. Wright, Watson et Bell (1996) ont approfondi cet aspect du modèle et soutiennent que les croyances contraignantes réduisent les options de solutions disponibles face à une problématique familiale alors que les croyances facilitantes élargissent le répertoire de solutions.

Explorer l'adaptation conjugale à l'arrivée d'un premier enfant

Les participants ont expérimenté différents types de questions pour explorer l'adaptation conjugale, notamment les questions circulaires. Le CFIM a permis de préciser que les questions circulaires les plus utiles portaient sur les différences. Par exemple, un médecin dit à un couple : « *C'est pas là que vous vous voyez, diriger votre femme pendant le travail. Vous vous voyez plus comme un soutien. Et vous, comment voyez-vous son rôle ?* » Les questions circulaires portaient aussi sur l'effet d'un comportement : « *Quand elle se décourage avec l'allaitement, quelle est votre réaction ?* », ou encore comportaient des composantes hypothétiques, axées sur l'avenir : « *Comment réagiriez-vous si elle perdait le contrôle pendant l'accouchement ?* »

Une telle exploration de l'expérience des couples a permis l'identification de certains *patterns* de fonctionnement conjugal utilisés comme mécanismes d'adaptation lors de l'arrivée d'un premier enfant. La mise en évidence des *patterns* qui favorisaient la complicité entre les conjoints a renforcé cette complicité. D'autre part, lorsque des *patterns* qui nuisaient à l'adaptation ont été identifiés, les médecins ont proposé, avec succès, des comportements qui visaient à les modifier. Par exemple, se sentant fatiguée après une journée avec son nouveau bébé, une femme s'isolait dans son bain pendant une heure ; son mari, croyant lui faire plaisir, la rejoignait avec le bébé ; la femme, croyant qu'il ne voulait pas rester seul avec le bébé, se mettait en colère ; le mari, dont l'inquiétude grandissait avec les cris et les pleurs de son épouse, n'osait plus la laisser. Après l'exploration de ce *pattern*, le médecin a proposé au couple que, lors du bain de madame, monsieur sorte le bébé à l'extérieur pour une marche.

Les discussions entre les médecins et l'infirmière au sujet de ces *patterns* ont permis aux médecins de faire l'apprentissage du concept de circularité. La circularité constitue un élément fondamental du modèle de Wright et Leahey (1994). Elle concerne la réciprocité de la communication entre les personnes. La mise en évidence de ces *patterns* a aidé les médecins à mieux comprendre les comportements des conjoints, à les refléter aux couples et à faire des recommandations pour faciliter la communication conjugale.

Personnaliser l'enseignement

Les quatre médecins participants donnaient déjà à leurs patientes une grande quantité d'information concernant la grossesse, l'accouchement et les soins au bébé. Les huit couples ont affirmé que cette information

était essentielle. L'exploration de leur adaptation a toutefois permis d'ajuster l'information donnée à chacune des situations familiales. Les médecins ont ainsi mis en application un principe éducatif fondamental reconnu en sciences infirmières, qui soutient que l'efficacité d'un enseignement est dépendante de l'identification des besoins d'apprentissage de la clientèle cible (Riopelle, Grondin et Phaneuf, 1988).

Normaliser l'expérience affective des conjoints

Il s'agit d'interventions qui visaient à légitimer les réactions et les émotions vécues par les conjoints. Par exemple, le fait de normaliser l'ambivalence à devenir parents, l'appréhension des pères face à leur rôle lors de l'accouchement et les changements dans le désir sexuel pendant la grossesse a été apprécié par les couples. Dans le même ordre, lors d'une visite postnatale, un médecin a dit : « *C'est souvent comme ça, il y a des soirées plus difficiles. (...) Vous cherchez votre temps comme bien des couples avec des enfants.* »

Les commentaires des couples relativement à ces interventions ainsi que les discussions avec l'infirmière ont permis aux médecins de réaliser l'importance de rassurer les couples non seulement sur le plan physique mais aussi sur le plan affectif. D'ailleurs, Wright et Leahey (1994) en font mention, soutenant que ce type d'interventions diminue le sentiment d'isolement occasionné lors d'une expérience affective importante.

Souligner les compétences des conjoints

Ce sont les habiletés des couples à s'adapter à l'expérience de la grossesse ainsi que leurs compétences parentales qui ont reçu des commentaires positifs de la part des médecins : « *Peut-être que ça va bien parce que vous avez réfléchi et discuté l'un avec l'autre.* » et « *Vous vous êtes rapidement ajustés à son changement d'horaire !* » Par ailleurs, les couples ont affirmé que ces interventions étaient essentielles : « *J'ai besoin de savoir que je fais correct* (avec le bébé). »

La chercheuse a encouragé les médecins à prendre conscience que ces interventions soutenaient l'établissement du niveau de confiance nécessaire aux couples pour s'adapter à leur nouvelle expérience. Cette réflexion les a conduits à relever le risque d'une surcharge d'information et de conseils pendant la période périnatale : « *On les prévient de tellement de choses qu'ils doivent se sentir incompétents la plupart du temps !* » Les participants étaient d'accord avec l'infirmière du fait que la reconnaissance de leurs forces leur permettait de se percevoir de façon posi-

tive au sein de leur couple, favorisant ainsi l'émergence de solutions plus efficaces. Ces observations confirment que ce type d'interventions contribue à créer un contexte propice au changement (Wright et Leahey, 1994), centré sur les forces plutôt que sur les problèmes des familles (White, 1988–1989 ; McElheran et Harper-Jacques, 1994).

Discussion

Les résultats de cette étude soutiennent le point de vue de Cowan et Cowan (1987) à l'effet que des interventions préventives peuvent être utiles aux couples pendant la période périnatale. Les huit couples ont en effet exprimé qu'ils maintenaient ou amélioraient leur complicité conjugale alors qu'il est reconnu que l'arrivée d'un enfant contribue plutôt à distancer les conjoints. De plus, les interventions identifiées vont dans le sens proposé par ces auteurs, c'est-à-dire qu'elles visent la participation active des pères, la réflexion et l'échange au sujet des croyances et des attentes des conjoints, ainsi que l'anticipation et la résolution des problèmes d'ajustement possibles pendant la transition.

Quant à l'applicabilité de ces interventions par des cliniciens de première ligne, les résultats révèlent que des infirmières et des médecins pourraient procéder à de telles interventions, puisqu'il ne s'agit pas d'un « programme » structuré tel que Cowan et Cowan (1987) avaient expérimenté ou encore d'un plan de traitement basé sur une évaluation exhaustive de la dynamique familiale. Les interventions identifiées peuvent être insérées au cours du suivi périnatal habituel sans alourdir indûment ce dernier, ce qui semble mieux convenir aux contextes de pratique des cliniciens de première ligne.

Les résultats de cette étude sont encourageants en ce qui a trait à la recherche future. L'intégration au CFIM des interventions identifiées par les participants témoigne du potentiel d'application clinique de ce modèle de soins à la famille. Il serait intéressant d'en vérifier l'applicabilité dans d'autres milieux cliniques où des infirmières sont impliquées.

D'autre part, la méthodologie utilisée constitue une approche prometteuse pour le développement d'interventions cliniques, en particulier dans des problématiques complexes de soins. Trop souvent, les résultats de la recherche évaluative traditionnelle restent inutilisées, accusés de ne pas tenir compte des réalités cliniques. Pour être plus efficaces, les chercheurs doivent s'approcher de ceux qui utilisent les résultats de leurs études. Bien plus, ils doivent les accompagner dans leurs pratiques et les soutenir dans leurs réflexions et leurs expérimentations.

Il s'agit là du domaine de la recherche participatoire développé, entre autres, par Schön (1983) et, au Québec, par Yves St-Arnaud (1995).

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Adapting the CAUSN Accreditation Process for Emerging Models of Nursing Education in Canada

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Les nouveaux modèles de formation infirmière au Canada ainsi que les changements dans leur modes de livraison soulèvent certaines questions en lien avec l'agrément de ces programmes. Cet article suggère des moyens qui permettraient de tenir compte, au moment de l'agrément, de ces changements. Actuellement, diverses modalités de formation infirmière existent dans les universités canadiennes; une formation peut être offerte, soit simultanément à plusieurs sites, soit en collaboration avec une ou plusieurs institutions pour la livraison d'un programme à plusieurs sites ou encore par l'enseignement à distance. Le programme d'agrément de la formation infirmière universitaire développé par l'Association canadienne des écoles universitaires de nursing (l'ACEUN) permet d'évaluer la qualité de ces programmes et de promouvoir leur développement. La décision de se soumettre au processus d'agrément exige un engagement important de la part de l'école. Il est essentiel que ce processus soit juste, équitable et crédible tout en tenant compte à la fois des changements dans les programmes de formation et dans les modes de livraison de ceux-ci.

This paper highlights the accreditation issues raised by new and emerging models of baccalaureate nursing education and program delivery in Canada. It suggests ways of adapting the accreditation process to address recent changes. Nursing degree programs now offered by universities include programs at several sites, collaborative programs with partner institutions at multiple sites, and programs offered primarily through distance education. The accreditation program developed by the Canadian Association of University Schools of Nursing (CAUSN) provides a mechanism for monitoring the

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quality of a nursing education program and promoting the growth of the school that offers the program. Since the decision to undergo accreditation signifies a major commitment on the part of a nursing program, it is essential that the accreditation process be adaptable to meet the needs of evolving nursing education and program delivery models, and that it be fair, equitable, and credible.

Nursing education is constantly evolving in order to accommodate the needs of society. Two recent developments are: the requirement of a baccalaureate degree for practice entry in certain regions; and the emergence of new models of nursing education and program delivery.

Adoption of the nursing baccalaureate as the standard for entry-level practice is based on the "nature and range of knowledge and skills required to practice nursing and the right of the health-care consumer to receive care from a well-prepared professional nurse" (Kerr, 1996b, p. 332). This standard has now been adopted in five provinces: Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, and Manitoba. The College of Nurses of Ontario (CNO) recently approved the nursing baccalaureate as the educational requirement for practice entry in that province. All nursing students in Ontario are expected to be enrolled in a baccalaureate nursing program by the year 2002, in order to graduate by 2005 when the requirement comes into effect. The entry-to-practice position has many ramifications for the nursing profession. For instance, provisions must be made for nurses who are qualified at the diploma level and those who live in remote areas (Kerr, 1996a). In short, accessibility must remain central to decision-making. Accessibility should be facilitated by creative collaboration between universities and colleges, as well as distance-education programs (Bajnok, 1992; Kerr, 1996a). The CNO has declared that collaborative programs between universities and colleges are essential to its reform (Council of the College of Nurses of Ontario, 1998).

Collaborative efforts at the generic baccalaureate level have been made in British Columbia, Alberta, Saskatchewan, Manitoba, and Ontario (Goldenberg, Gerhard, McFadden, & Johnston, 1995; Grenier & Dewis, 1995; Gushuliak et al., 1994; Hills et al., 1994). Also, there has been a change in the structure of nursing education programs in Newfoundland, Nova Scotia, Prince Edward Island, and New Brunswick, where only baccalaureate programs are now offered ("Le baccalaureat," 1995; Canadian Association of University Schools of Nursing [CAUSN], 1992; Kerr, 1996b). Distance-education courses are available in most regions of Canada (Attridge & Clark, 1992; Kerr, 1996a).

The purpose of this paper is to highlight the issues raised, for the accreditation process of the Canadian Association of University Schools of Nursing (CAUSN), by new and emerging models of baccalaureate nursing education and program delivery. We will address three areas: historical evolution, rationale, and adaptation of the accreditation process. We will suggest ways in which the accreditation process might retain its integrity and increase its adaptability when addressing current shifts in nursing education and program delivery. In addition to the more traditional programs, universities now offer: (1) nursing degree programs at several sites, (2) collaborative and articulated nursing degree programs at multiple sites, and (3) nursing degree programs via distance education. All of these models have raised questions about the types of reports that are required for accreditation, management of site visits, composition of review teams, choice of sampling activities, and cost.

Evolution of Accreditation Process

In 1957, acting on behalf of university schools of nursing, CAUSN issued *Desirable Standards for Canadian University Schools of Nursing* (CAUSN, 1984). These standards, revised in 1962, served as a guide for program development within the increasingly numerous schools. In 1971, prompted by developments in education and by government interest in accreditation, CAUSN established an ad hoc committee on evaluation. The committee introduced the criteria of relevance, accountability, relatedness, and uniqueness in evaluating nursing schools (CAUSN, 1984). In 1972 CAUSN was designated the accrediting agency for baccalaureate nursing programs in Canada, and in 1984 its Council approved the establishment of a Board of Accreditation to oversee programs and develop review teams. In 1986 CAUSN accredited its first baccalaureate nursing program, and in 1987 it published the monograph *Accreditation Program,* outlining its philosophy, criteria, and accreditation process (Thomas & Arseneault, 1993). The monograph was revised in 1995.

While the context of nursing education is evolving, the four criteria that frame the accreditation program and related performance indicators continue to be applicable. The administration, faculty, and students of the school that is under review demonstrate in the written report how the program meets the criteria by responding to the specific indicators. The criteria also reflect the growth and development of the

program and thus ensure that the assessment is dynamic in its approach (Thomas & Arseneault, 1993).

Rationale and Requisites for Evaluation/Accreditation

In accordance with the movement towards accountability in higher education, academic programs are being reviewed for their strengths and their effectiveness (Barak & Breier, 1990). In the academic specialty of nursing, accreditation is one way of ensuring educational quality; and while it serves to enhance the quality of programs, accreditation also promotes their growth.

The accreditation process as developed by CAUSN identifies those qualities that should be common to all baccalaureate programs. However, schools are also encouraged to develop in ways that are responsive to their own particular social, professional, and institutional context and that reflect the unique characteristics of their region. A uniform model of organizational structure or design is not required. However, while CAUSN subscribes to a principle of flexibility regarding both academic autonomy and governance issues, it does hold that nursing programs should adhere to the philosophy of nursing education espoused by CAUSN and expressed in its 1994 Statement on Baccalaureate Education (CAUSN, 1995, p. 5).

Adaptation of Accreditation to New Models of Nursing Education

Accreditation is costly in terms of time, resources, and money. It is essential that guidelines be developed to address these issues and to ensure that the accreditation process is fair and equitable in assessing programs of varying size, complexity, and locations. All programs should be treated with a similar level of diligence and should feel confident that they are receiving the best value for their accreditation expenditure. Small or less complex programs must not be overly scrutinized, while large or intricately designed ones must not be underevaluated. Assessment of multisite programs should be equitable and consistent in process and degree of scrutiny between sites. Finally, the workload of the review team must be reasonable.

The Board of Accreditation has recommended that decisions concerning the accreditation process be based on the standard that has always applied — that is, accreditation of a baccalaureate program is specific to the degree being granted. For example, if a university offers

both generic and post-diploma programs, the accreditation process should review both, since graduates receive the same degree. The documentation prepared by the school, the site visit, the report of the reviewers, and the Board's final decision must cover all aspects of the baccalaureate program(s) offered by the school.

Similarly, for programs that make extensive use of distance education, the approaches that are used in assessing the more traditional on-site programs can be adapted. For instance, meetings with university administrators, clinical supervisors/preceptors, and graduates may be held on the premises of the institution. Students should be interviewed on site, whether in a group or individually. Students who live at a distance might be reached by teleconference or videoconference — thus the technology that is used for the courses will be employed. Sessions that involve tutors may also be evaluated either physically or virtually, depending on the technology that is normally used.

An examination of university nursing education in Canada revealed many definitions and types of collaborative and articulated programs offered at multiple sites. Contemporary programs vary considerably in their partnership arrangements. While one program has 10 partners, most have three or fewer. The concept of sampling sites for accreditation purposes was considered, but this may present some concerns related to fairness, consistency, and credibility. The self-study report and site visit for highly collaborative programs that share curriculum, faculty, and resources might differ slightly in construction from those for programs that are less integrated.

One way of dealing with these complexities is or was to develop a checklist for schools to complete and submit to the CAUSN Board of Accreditation either when they apply for accreditation or before the dates and selection of reviewers are finalized. Thus the onus will be on school personnel to describe their program and the exact nature of their collaboration. Based on this information, the CAUSN Board of Accreditation would advise the school on how the Accreditation Program might be adapted to meet its particular needs while maintaining the integrity of the process. In November 1998 the CAUSN Council approved the Board of Accreditation's Discussion Paper that included many of these issues (CAUSN, 1998). The Collaborative Nursing Program of British Columbia is currently using this checklist in preparing for its accreditation. Table 1 offers an example of the checklist Questions. Table 2 illustrates how accreditation might be adapted.

Table 1 *Suggested Checklist Items*

Item	Questions for Program to Address
Sites	How many sites are there? Which years of the program are offered at each site?
Special Features	Is the program offered at more than one site? Is the program collaborative or articulated? Describe model. Is the program offered via distance education?
Students	How many students are enrolled at each site? How are students evaluated?
Curriculum	Is the curriculum common to all sites? How is the curriculum differentiated at each site?
Faculty	Are faculty members common to more than one site? What are the faculty's qualifications? Include nursing and non-nursing faculty. What is the process for appointment/promotion across sites?
Teaching Standards	How are consistency and quality maintained between sites, while allowing for academic freedom and uniqueness?
Learning Resources	Should resources such as the library and computers be assessed separately or by site?
Administrative Issues	Is the budget for each site adequate? How is the budget administered?
Academic Decision-Making	How are decisions concerning admission, appeals, advancement in program made individually at each site?
Clinical Settings	How are consistency and quality maintained between settings, while allowing for academic freedom and uniqueness?

Table 2 *Possible Adaptation of the Accreditation Process*

Issue	Responses That Board of Accreditation Can Provide
Self-Study Reports	Which sections of the Nursing Education Database and Self-Evaluation Questionnaire can be centralized and which sections need to be addressed at each site?
Review Team	Are more than three reviewers needed?
Sites	How many sites are to be visited? How many days are to be spent at each site?
Reports from Reviewers	How many reports are needed? Which sections of the report (including responses to the Self-Evaluation Questionnaire) could be centralized in the overall report and which sections need to be addressed specifically at each site?
Accreditation Fee	Adjustable according to CAUSN guidelines
Decision	Accredit for seven years (all sites), or accredit for three years (concerns at one or more sites/ specific recommendations), or deny accreditation

Conclusion

In the current state of change and restructuring in education and in health care, the nursing profession is faced with the need to evolve in order to serve society in the best way possible while also maintaining its standards, credibility, and flexibility. Accreditation is one way of meeting this obligation, as it ensures that nursing education programs will continue to grow and develop while retaining their diversity and uniqueness. As the baccalaureate degree requirement for practice entry is being implemented throughout most of Canada, it is appropriate that issues relevant to the accreditation of university schools of nursing be resolved. The process of accrediting new and emerging models of nursing education and program delivery needs to be adapted in order to ensure that these models have the opportunity to grow and develop. Potential issues, such as the addition of new sites or changes in degree-granting status, may have to be addressed in the future.

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Canadian Journal of Nursing Research, 1999, Vol. 31, No. 3, 139–142

Book Review

Clinical Wisdom and Interventions in Critical Care: A Thinking-in-Action Approach

Patricia Benner, Patricia Hooper-Kyriakidis, and Daphne Stannard
Philadelphia: W.B. Saunders, 1999, 588 pp.
ISBN 0-7216-7511-5

Reviewed by Franco A. Carnevale

> The kind of theoretical or disengaged thinking and reasoning that are commonly taught to students stand in stark contrast to the engaged reasoning of expert clinicians that is based on an historical understanding of the patient and the contextual and relational knowledge of the situation. (p. 187)

This book documents the most current findings from the rich body of work launched by Patricia Benner and published in her landmark book *From Novice to Expert: Excellence and Power in Clinical Nursing Practice* (Benner, 1986). In relating the Dreyfus Model of Skill Acquisition to her study of nursing expertise, Benner illustrated the embodied, experiential — skilled know-how — nature of nursing knowledge. This challenged the prevailing linear, "top-down" view whereby expert clinical practice is believed to consist of an *application* of theoretical and research knowledge.

These ideas were elaborated in a subsequent study of 130 nurses in *Expertise in Nursing Practice: Caring, Clinical Judgment, and Ethics* (Benner, Tanner, & Chesla, 1996). These findings were integrated with a recent study of an additional 75 nurses published in this new volume, which aims in particular to document "thick descriptions" of nursing expertise in critical care nursing. The authors refer to this work as a naturalistic, descriptive ethnography (using interpretive phenomenology) examining critical care nursing practice among novice to expert nurses, as well as advanced practice nurses.

The first chapter provides an introduction to what the authors argue is the central phenomenon characterizing clinical expertise in critical care nursing: thinking-in-action. Thinking-in-action refers to the patterns of thought and action involved in engaged clinical and ethical reasoning that is responsive to rapidly changing clinical situations. In addition, the study samples and methods are described, illustrating the

wide range of critical care settings represented by the informant-nurses, caring for adult, pediatric, and neonatal populations. This chapter also introduces the reader to the authors' philosophical orientation on clinical judgement and skilful comportment.

Chapters 2 and 3 describe the two pervasive habits of thought and action identified by the authors: clinical grasp and clinical forethought. Clinical grasp (chapter 2) refers to a process of attunement that is responsive to an unfolding clinical situation. This involves a capacity to recognize meaningful clinical differences — "qualitative distinctions" — as well as skills in clinical puzzle-solving, recognizing changing clinical relevance, and developing clinical knowledge in specific patient populations. Clinical forethought (chapter 3) refers to thought processes whereby clinicians anticipate eventualities in everyday practice and take the corresponding preventive and corrective actions.

The remaining chapters discuss nine domains of practice that the authors refer to as "strong situations" — types of situations, characterized by common goals and concerns, that guide clinical judgement and action. Chapter 4 outlines key aspects of diagnosing and managing life-sustaining physiologic functions in unstable patients, as well as describing the links between the two commonly simultaneous functions of diagnosis and management. Shifting to a view of nursing expertise beyond the physiologic aspects, chapter 5 describes the know-how involved in mobilizing resources to ensure the effective management of a crisis.

Chapter 6 describes the complex expertise required in comforting the critically ill. The skilful nurse identifies the patient's comfort needs, judges what might be comforting in the particular situation, and undertakes a sophisticated constellation of bodily and relational comfort measures, while limiting the intrusion of critical care technology. Chapter 7 discusses the relational work of caring for patients' families by examining the clinical judgement and skill involved in providing information and support to families and encouraging them to participate in caring for the critically ill patient. Chapter 8 explains how the expert nurse prevents hazards in the technological environment of the critical care setting through skilful use and management of the technology. Chapter 9 examines the nursing expertise required to recognize and respond to the transition from curative to palliative care for patients where the "end of life" is judged as imminent.

Chapter 10 illustrates the expert nursing judgement and skill required to create a communicative context that fosters teamwork

and optimizes clinical care (through the effective communication of clinical transitions, changes in practices, and new clinical knowledge). Chapter 11 describes the clinical expertise involved in monitoring everyday quality of care and the preventive and corrective management of system breakdown (currently attributable to major changes in delivery systems, such as various cost-cutting measures). In chapter 12, clinical leadership is examined as a form of expertise, along with the skills involved in the promotion of team building and the development of the skills of others.

Appendix A provides a detailed description of the study's design, including informant recruitment, data-collection procedures, and interview questions and probes. Unfortunately the analysis section is very brief, wherein the reader is referred to an earlier publication (Benner et al., 1996). Appendix B discusses innovative educational strategies that can help foster a thinking-in-action orientation "in the classroom." Finally, the authors have provided an excellent glossary that will be particularly helpful for readers who are unfamiliar with the terms associated with this body of work.

This book extends the tradition established by Patricia Benner and her colleagues, in their earlier work, in illuminating our comprehension of nursing expertise by explicating its tremendous complexity. It challenges our quasi-dogmatic over-reliance on static, linear models of nursing education (such as classroom teaching of clinical phenomena) and nursing management (such as attempts to define nursing with critical pathways, protocols, and guidelines). The depth of this study of critical care nursing is profound. Every identified theme is very well supported with rich narrative exemplars.

Given the extraordinary importance of this work, it is difficult to discuss its limitations. However, in the interests of ensuring the completeness of this review, two critical reflections will be outlined.

First, it would have been useful if the authors had presented a critical analysis of the pertinence of their current work to non-critical care settings, given the widespread interest in the ideas of Benner and her associates across a diversity of nursing specialties. Second, the authors have gone to great lengths to orient the reader to how clinical expertise involves an embodied practical mastery, yet, remarkably, virtually all of their exemplars are self-reports. These consist of formal interviews or observational interviews (with the exception of several observational notes in chapter 6 and one case in chapter 11). Self-report narratives of significant situations run the risk of bearing the characteristics of a "good story" that is cohesive and expressive of a central "plot." Clinical

practice can be "messier" and less articulable than the types of accounts that are presented in this book. Given the practice-oriented view of expertise the authors promote, a significant body of observational data should have been presented and discussed in terms of how they converged and diverged with the interview data. This would have given the reader a more comprehensive and holistic representation of nursing expertise.

In conclusion, this is an extraordinary and important book. Every nursing educator and manager, in particular, should read it in order to foster the development of nursing with a richer grasp of nursing expertise and practice.

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Video Review

The Barefoot College: Knowledge Demystified

Co-produced by UNESCO and Opeongo Line
Director and Founder of Barefoot College: Sanjit (Bunker) Roy
Ben Lomond, CA: The Video Project:
Media for a Safe & Sustainable World, 44 min.
www.videoproject.org

Reviewed by Anne Ehrlich

> For centuries in villages around the world people have lived sustainably. They have taken only what they need from the earth. Modernization has often led us on a less sustainable path. Traditional ways of living have rarely been married wisely with modern appropriate technology. People everywhere are now exploring new and old ways of working which will rebuild a sense of community and greater self-reliance.
>
> – Sanjit Roy

Terms such as sustainable community development used by those involved in international and community health are often considered buzzwords by sceptical professionals, academics, and others who are accustomed to seeing projects with these labels fail. However, the approach of the Barefoot College in Tilonia, Rajasthan, India, gives real meaning to such terms and in particular, calls upon viewers from "the north," to see its relevance to sustainable local and global development. This video uses interviews with "barefoot" midwives, doctors, chemists, solar engineers, structural engineers, and hand-pump mechanics trained at the college to describe this educational approach, which has been employed successfully in 13 Indian states.

Similar to the development initiatives of many international organizations, the Barefoot College was originally envisaged as an organization that would attract young urban professionals to go and work with local residents. However, the founders did not anticipate the wealth of knowledge that already existed within the communities themselves. This discovery led to a transformation of the organization, based on a deep respect for the indigenous knowledge and culture, its oral traditions, and its own informal approaches to learning. Hence the Barefoot College is founded on non-traditional educational methods that focus on hands-on learning, limited use of textbooks, and subjects that contribute directly to the development of the local community.

Successful sustainable development is exemplified by projects such as the design and construction, in 1989, of the new Barefoot College campus. The plans were drafted in the sand by Bhawer, a person with no formal education, who then supervised 60 masons in the construction of the campus based on the ideals of environmental regeneration and protection. Local materials were used throughout. Solar panels supply the power for the entire campus, including the computers. A bio-gas plant, run on decomposed leaves gathered in the area, provides additional energy for the sterilization of medical equipment.

Rainwater harvesting, a centuries-old technology, provides the water for the irrigation system. This system, which employs local artisans, resulted in the collection of 9 million litres of water in 1 year alone. The video compares this system to the use of high-tech drilling rigs, which exploits groundwater, uses non-renewable resources, and in this instance would have cost 9 million rupees.

Throughout the 44-minute video, the vibrancy, colour, and sounds of life within the college and in the villages provide a rich backdrop for the narrative descriptions of the many programs offered at the Barefoot College. The programs range from water technology, organic farming, and reforestation, to communications, health, and women in development, to support to local artisans, to a children's parliament aimed at increasing political awareness and participation.

In the college's community health section, the training of barefoot doctors and traditional midwives has led to what one community member describes as "an awakening to health, hygiene, and...collective rights." Family planning workshops and immunization clinics are held as part of the training and services offered by the college. Similarly, training and service to the community are integrated in the outpatient department situated on the main campus.

Principles of health education and promotion underlie the activities of the communications section of the Barefoot College, which organizes events to celebrate and sustain local culture and traditions. Puppet shows and street theatre entertain while also conveying messages that ultimately contribute to community action. For example, Jokum Cha Cha is a puppet character whose dialogue with the audience encourages audience members to laugh at themselves while also stimulating discussion on controversial topics such as alcoholism, women's issues, and environmental degradation.

The Barefoot College: Knowledge Demystified is highly recommended for educators, community health professionals, students, and anyone

else interested in international health, primary health care, and sustainable development. The powerful messages of director and founder Sanjt Roy, as well as the many stories and the music, dance, and theatre performances by community members, provide excellent visual examples of adult education, participatory development, and global issues in general. Although not stated explicitly, the college's respect for, and inclusion of, the knowledge inherent in the community challenges researchers and evaluators to use study designs and methods that are consistent with these values.

The video concludes with statements on the impact of the Barefoot College's innovative programs on local, state, and national policies regarding education and community development. *The Barefoot College* inspires the viewer to want to see and hear more about this 20-year initiative. One shortcoming, however, is that it lacks information on the problems that must, inevitably, have been experienced, and how these were overcome.

The language level suggested in the video is Grade 10 or higher. The narrator speaks slowly and clearly. It may therefore be appropriate for audiences who have difficulty with English if it is shown by a facilitator who can answer questions and guide the discussion. The above website offers information about obtaining the video as well as a wide selection of other resources for anyone interested in sustainable community development.

Sanjit Roy points out that the Barefoot College model is applicable wherever there is a need for the development of self-reliance and self-esteem. From his perspective, this means virtually anywhere in the world. Roy encourages viewers to think about applying the principles of equality, collective decision-making, decentralized planning, self-reliance, and a simple lifestyle to their own lives:

> ...anyone living in a village in Africa or a village in Asia or a village in America.... And this is the only sustainable way out. Increase your dependency on each other rather than on outsiders. First see what you have within. What you have within is so rich, it is so deep, it is so profound that you don't really need to go outside.

These words challenge the very essence of being for many international health and community development workers, providing a strong foundation for discussion, reflection, debate, and practice in educational and community settings.

Anne Ehrlich, R.N., M.HSc., is Assistant Professor, School of Nursing, McMaster University, Hamilton, Ontario.

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International Nursing / Les sciences infirmières sur la scène internationale :

Internet Resources / Ressources Internet

Keywords: transcultural nursing; international nursing; global nursing; studies of nursing across cultures; international nursing collaboration; policies – education – clinical practice – working environment – staffing recruitment and retention.

NURSING

ICN International Council of Nurses
http://icn.ch/index.html

The International Council of Nurses is a federation of national nurses' associations (NNAs) representing nurses in 118 countries. The website is comprehensive, well organized, and easy to navigate, with many links to nursing and research networks and up-to-date news and events listings relating to worldwide issues and concerns. Position and policy statements are archived. Publications are listed and online order forms provided.

Nurse 2001
http://www.nurse2001.vbg.ru/eng/index1.htm

This interesting English/Russian website is dedicated to international discussion. It features photographs, news, and discussion groups from Vyborg Medical Nurse College in Leningrad and introduces participants to the students and instructors and to the opinions of the doctors and nurses. The purpose of the site is "to explore wide-ranging views on problems in medical care and medical professional education from various sections of society. We invite participation from anyone interested in a wide-ranging discussion on these subjects: professionals, patients, and others."

Sigma Theta Tau International, Honor Society of Nursing
http://www.nursingsociety.org/

Sigma Theta Tau International, Honor Society of Nursing, is dedicated to improving the health of people worldwide by extending the scientific base of nursing. Its members are nursing scholars committed to the pursuit of excellence in clinical practice, education, research, and leadership. The website offers links to sources of research grants, the Virginia Henderson Library, and the new International Nursing Exchange (INE) Questionnaire.

Transcultural Nursing Society
http://www.tcns.org/

The mission of the global Transcultural Nursing Society is to ensure that people's culture-care needs are met by nurses prepared in transcultural nursing: "...to bring nurses together worldwide with common and diverse interests to improve care to people of diverse and similar cultures."

INTERNATIONAL HEALTH CARE

Canadian Society for International Health (CSIH)
http://www.csih.org/

The CSIH is committed to the promotion of international health and development. The site includes links to the newsletter *Synergy Online* as well as the International Health Human Resources Registry, a listing of Canadian professionals with expertise in international health.

Centre for International Cooperation in Health and Development (CCISD)
http://www.ccisd.org/

CCISD was established by the Faculty of Medicine of Quebec's Laval University to coordinate, plan, and manage basic health interventions in developing countries. This very informative site in four languages offers a good gender bibliography and project descriptions.

Global Health: Key Resources
http://www.pitt.edu/HOME/GHNet/GHKR.html

A very comprehensive set of resources related to public health worldwide.

Pan American Health Organization (PAHO)
http://www.paho.org/default.htm

This international public health agency serves as the Regional Office for the Americas of the World Health Organization and enjoys international recognition as part of the United Nations system.

World Health Organization
http://www.who.org/

CJNR 2000–2004:
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Philosophy / Theory

September 2000 (vol. 32, no. 2)

The rapid changes in the health-care system, the development of new technologies, and, consequently, the changes in nursing roles and responsibilities are all challenging nurses to critically examine and defend what constitutes nursing practice. This examination prompts us to consider the nature, scope, and goal of nursing practice. In addition to these issues, nursing scholars are grappling with questions related to what it means to know, the nature of truth, and the basis on which we claim that our research methods lead to knowledge. To address these concerns, philosophic and theoretical papers are invited on topics that speak to the nature of nursing and the nature of nursing knowledge. Priority will be given to manuscripts that have the potential to stimulate discussion of critical issues facing the discipline of nursing.

Guest Editor: Dr. Joy Johnson
Submission Deadline: January 15, 2000

Chronicity

December 2000 (vol. 32, no. 3)

Rapid changes in health-service delivery, advances in technological-care options, and continual reconceptualization of the roles of health professionals present challenges in providing nursing care for persons affected by chronic illness. Because chronic illness typically involves changes that span the physical, the social, the practical, and the existential, nurses have come to recognize chronicity as an inherently complex phenomenon and one in which nursing care can make a significant difference to both individuals and populations. Chronicity implies dynamic learning and adaptation processes, complicated social and health-care negotiation, and challenging decision-making processes. For this issue on chronicity, papers are invited that address research into any of these aspects of the chronic illness experience or into their application in treating individuals with a chronic disease. Although the primary focus will be chronic illness in a general sense, papers reflecting research on a specific chronic disease will be welcomed. Priority will be given to papers that discuss the clinical or theoretical significance of knowledge about chronicity.

Guest Editor: Dr. Sally Thorne
Submission Deadline: April 15, 2000

Please send manuscripts to:
The Editor, *Canadian Journal of Nursing Research,*
McGill University School of Nursing, 3506 University Street,
Montreal, QC H3A 2A7 Canada

Bulletin Board/Babillard

Conferences and Call for Abstracts

Research for Unity in Diversity: A Foundation for Practice in the 21st Century. Eastern Nursing Research Society (ENRS), 12th Scientific Sessions, Newport, Rhode Island, USA, March 30–April 1, 2000. *Information:* Dr. Hesook Suzie Kim <suziekim@uri.edu>, ENR2000, University of Rhode Island College of Nursing, 2 Heathman Road, Kingston, RI 02881 USA

Celebrating Success in the New Millennium: International Reflections on Nursing Heritage. Sixth International Middle East Nursing Conference, Irbid, Jordan, May 2–3, 2000. *Deadline:* January 15, 2000. *Organized by:* Jordan University of Science & Technology (WHO Collaborating Centre), Royal Medical Services, Department of Nursing, and University of Windsor (Affiliate, WHO Collaborating Centre), Toronto, Canada. *Information:* Dr. Rowaida Al-Ma'aitah, Jordan University of Science & Technology <maaitah@just.edu.jo>, 962-2-295-111 ext. 3606, fax 962-2-295-012. *In North America:* Dr. Sheila Cameron, University of Windsor, Toronto, Canada <camero2@uwindsor.ca>, 519-253-3000

Searching for Meaning in the New Millennium. International Conference, Trinity Western University, Vancouver, British Columbia, Canada, July 13–16, 2000. *Deadline:* February 29, 2000. *Information:* Dr. Paul T.P. Wong <wong@twu.ca>, TWU Langley, BC V2Y 1Y1 Canada, 604-513-2034, fax 604-513-2010

Chair, Nursing Department

University of New Brunswick in Saint John

Faculty of Science, Applied Science and Engineering

The University of New Brunswick in Saint John (UNBSJ) invites applications for the position of Chair, Department of Nursing within the Faculty of Science, Applied Science & Engineering. This is a three-year appointment commencing no later than 1 July 2000. The position holds tenured stream faculty status at an academic rank that reflects the experience of the successful applicant.

Saint John is a small historic city located in a province with lifestyle advantages including ocean beaches, whale watching, boating, hiking, skiing, snow-mobiling, and many festivals. UNBSJ's practical size (approximately 3500 students) allows for an excellent student-to-professor ratio, a dynamic multi-disciplinary approach, and ample opportunity for student involvement in campus and community endeavors.

The Department of Nursing offers programs leading to a Bachelor of Nursing for basic and post diploma students. Curriculum is developed and is refined in collaboration with the Faculty of Nursing at University of New Brunswick Fredericton (UNBF). The UNBF/UNBSJ undergraduate nursing programs received a seven-year Canadian Association University Schools of Nursing (CAUSN) accreditation in 1998. Opportunities exist for involvement in the graduate nursing program and certificate programs offered in co-operation with UNBF. Currently, UNBSJ undergraduate programs are offered on site, and graduate and certificate programs are offered through distance learning technologies.

The successful candidate is expected to:

- provide dynamic and visionary academic leadership
- manage financial and human resources
- maintain and enhance community nursing partnerships, and develop national and international nursing networks
- teach undergraduate and graduate courses
- mentor faculty scholars in developing programs of research

The ideal candidate should have the following qualifications:

- A Masters degree in Nursing; a PhD in Nursing or a related discipline (completed or in progress) is preferred
- Demonstrated abilities in leadership, administration, resource management, and interpersonal relationships
- Demonstrated commitment to excellence in teaching, research & practice
- Demonstrated nursing scholarship and contribution to nursing science through research and publications

This position is subject to final budgetary approval. Review of applications begins on **February 21, 2000**. Please send your letter of application, curriculum vitae, and the names and addresses of at least three referees to:

Dr. Keith De'Bell, Dean, Faculty of Science, Applied Science & Engineering
University of New Brunswick. PO Box 5050, Saint John, NB, E2L 4L5
Fax (506) 648-5650; sci-eng@unbsj.ca

Applicants must be eligible for registration with the Nurses Association of New Brunswick.

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. The University of New Brunswick is committed to the principle of employment equity.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND SCHOOL OF NURSING

Applicants are invited for 3 tenure-track appointments at the rank of Assistant/Associate Professor at Memorial University of Newfoundland's School of Nursing. The School offers a collaborative baccalaureate program with two other sites, a Post-Diploma baccalaureate program delivered via distance, and a Master of Nursing program with both a thesis and education non-thesis option. Plans are also underway to explore delivery of a Nurse Practitioner Program at the Master's level.

An earned doctorate or substantive progress towards a Ph.D. in nursing (or related discipline) is preferred. A Masters in nursing is required and clinical expertise in any of the following areas: Maternal Child/Women's Health, Community Health, Gerontology, and Mental Health. A second area of clinical expertise would be an asset.

The successful candidate is expected to teach nursing courses at the undergraduate and/or graduate level and maintain an ongoing program of research. The positions are subject to budgetary approval.

Applications accompanied by a curriculum vitae and the names of three referees should be submitted by January 31, 2000, to:

Dr. Carole Orchard, Director, School of Nursing,
Memorial University of Newfoundland,
St. John's, NF A1B 3V6

In accordance with Canadian immigration requirements, this advertisement is directed towards Canadian citizens and permanent residents of Canada. Memorial University is committed to employment equity.

SCHOOL OF NURSING
UNIVERSITY OF BRITISH COLUMBIA
VANCOUVER, BRITISH COLUMBIA

Faculty Position Available

The University of British Columbia invites applications for a tenure-track faculty position at the Assistant Professor rank in the School of Nursing.

A Doctorate degree in Nursing or a related discipline (earned or near completion) is required; a Master's degree in Nursing is also required. Applicants must have recent teaching and clinical experience. Candidates will be expected to establish and pursue a program of research in their chosen specialty area, and should have evidence of professional and scientific contributions in their field. The strengths of the School include its interdisciplinary collaboration, community linkages, working with clients with multiple challenges, and health promotion.

The UBC School of Nursing has a long-standing tradition of excellence in undergraduate and graduate nursing education, and a strong commitment to advanced professional practice, scholarship, and research. It offers programs leading to baccalaureate, master's, and doctoral nursing degrees and has affiliations with a wide variety of hospital and community agencies. A new Multiple Entry Option BSN program was launched in 1997.

The successful applicant will have teaching responsibilities in both the undergraduate and graduate programs. The position is available effective July 1, 2000. The appointment is subject to final budgetary approval. In accordance with Canadian immigration, priority will be given to Canadian citizens and permanent residents of Canada. UBC hires on the basis of merit and is committed to employment equity. We encourage all qualified persons to apply. Deadline for applications: February 15, 2000.

Applications, accompanied by a curriculum vitae and the names and addresses of three references, should be sent to:

Dr. Sonia Acorn
School of Nursing
University of British Columbia
T201-2211 Wesbrook Mall
Vancouver, BC V6T 2B5
Tel: (604) 822-7748 Fax: (604) 822-7423
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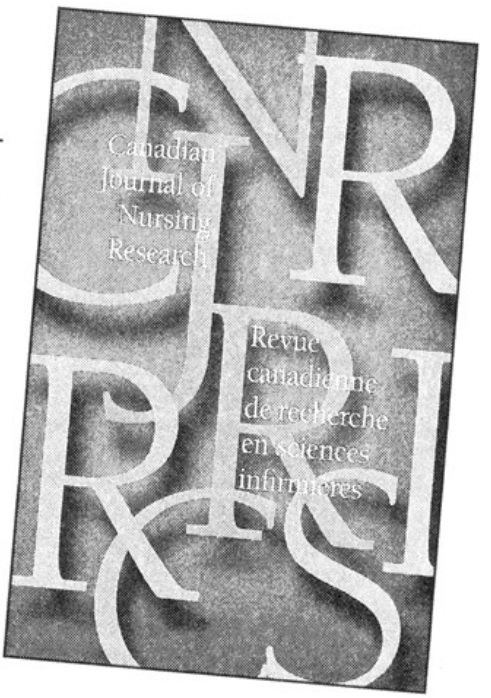

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All manuscripts must follow the fourth edition of the *Publication Manual of the American Psychological Association*. Research articles must follow the APA format for presentation of the literature review, research questions and hypotheses, method,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

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Text: The text should not exceed 20 double-spaced typed pages including references, tables, and figures (which are placed at the end of the text). Articles must be written in English.

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