EVALUATION OF A NURSING INTERVENTION TO MEET THE NEEDS OF FAMILY MEMBERS OF CRITICALLY ILL PATIENTS

by

MARTHA MACKAY

B.S.N., The University of British Columbia, 1986

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

in

THE FACULTY OF GRADUATE STUDIES

(School of Nursing)

We accept this thesis as conforming to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

May 1997

© Martha Mackay, 1997
In presenting this thesis in partial fulfilment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the head of my department or by his or her representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

School: Nursing
Department of Nursing
The University of British Columbia
Vancouver, Canada

Date August 15/97
ABSTRACT

Critical illness is a devastating experience, with the patient's survival often being uncertain. This threatens the supportive function of the family, which may induce a state of crisis in the family. Critical care nurses have long recognized the acute needs of families of critically ill patients, and have wanted to intervene effectively. A lack of rigorously tested interventions has prevented this from becoming a consistent reality in critical care nursing practice.

Past research has clearly identified consistent needs of families of critically ill patients. This study evaluated a research-based nursing intervention to help families of critically ill patients, using a post-test only, non-equivalent groups design. A nursing procedure and protocol, and written information about the critical care unit and local services were the elements of the intervention. Demographic data were collected, and need satisfaction was measured using a modified version of the Critical Care Family Needs Inventory (CCFNI).

The findings were that need satisfaction did not change from Group 1 (usual care) to Group 2 (experimental care). This may have been due to design limitations, such as failure to measure certain variables which can affect need satisfaction, leading to inability to control for their effect. Nevertheless, need satisfaction was high in both groups. It is concluded that the intervention promotes satisfaction of important needs amongst family members of critically ill patients, and it is recommended for implementation in like units, with like family members.

Consideration must be given to adequate education and workload management when implementing such an intervention. Nurse researchers are encouraged to further examine psychometric properties of the modified CCFNI, to conduct trials with adequate sample sizes, and to collaborate with medical colleagues to design and test means to meet the need of the family
to talk to the physician once a day.
# TABLE OF CONTENTS

Abstract ........................................................................................................ ii
Table of Contents ........................................................................................ iv
List of Tables ............................................................................................... vii
List of Figures .............................................................................................. viii
Acknowledgement ......................................................................................... ix

Chapter One Introduction ........................................................................... 1
Statement of the Problem .............................................................................. 1
Background and Significance ........................................................................ 2
Purpose of the Study ...................................................................................... 5

Chapter Two Literature Review .................................................................... 6
Critical Care Family Needs Assessment ....................................................... 6
   Early Studies .............................................................................................. 6
Critical Care Family Needs Inventory ......................................................... 10
Critical Care Family Needs Inventory: Modifications and Adjuncts 19
   Review and Meta-Analysis ....................................................................... 19
Other Descriptive Studies ........................................................................... 22
   Qualitative Studies .................................................................................. 22
Nursing Interventions to Meet Critical Care Family Needs ....................... 25
Crisis and Family Theory ........................................................................... 28
Summary ...................................................................................................... 30

Chapter Three Framework for the Study ..................................................... 32
   Conceptual Definitions ............................................................................ 32
   Research Question .................................................................................. 36
   Variables ................................................................................................ 36
   Other Relevant Terms ............................................................................ 37
   Assumptions ........................................................................................... 37
   Summary ................................................................................................ 37

Chapter Four Methods ................................................................................ 38b
   Setting .................................................................................................... 38b
   Research Design ..................................................................................... 39
   Treatment ............................................................................................... 41
LIST OF TABLES

Table I  Demographic Profile of Participants ........................................ 50
Table II  Demographic Profile of Patients ........................................... 51
Table II  Rating of Need Satisfaction on Modified Critical Care Family Needs Inventory . 53
Table IV  Items Rated Non-Applicable .................................................. 57
LIST OF FIGURES

Figure 1 ................................................................. 35
ACKNOWLEDGEMENT

I would like to acknowledge and thank my thesis committee for their support and encouragement during this undertaking. Their willingness to help and to share their individual expertise, as well as their consistent availability to me, has made a daunting task more manageable, and one from which I have learned a great deal.

Most of all, I would also like to recognize and thank my partner Mike, without whose support, love, and patience I could not have completed this, or any other part of my Master's degree programme.
CHAPTER 1

Evaluation of a Nursing Intervention to Meet the Needs of Family Members of Critically Ill Patients

Statement of the Problem

Critical illness is a devastating experience. The patient is thrust into a highly technical environment, where specialized health care staff, utilizing sophisticated monitoring and treatment equipment, attend to his or her multiple and complex needs. The patient's survival is often uncertain. Most critically ill patients, however, do not exist as isolated entities. The majority are members of a family, and most derive support and satisfaction of many needs from such membership (Hickey, 1992). Critical illness threatens this supportive function of the family, and, as such, often induces a state of crisis in the family (Rapoport, 1969). Thus emerge acute needs of families of the critically ill patient. Nurses have long recognized the near inevitability of such a crisis reaction of families of critically ill patients, and have wanted to intervene effectively, but this wish has not yet been consistently carried out (Hickey & Lewandowski, 1988).

While it is not clear just how involved nurses can or should become with families (Hickey & Lewandowski, 1988), it is clear that nurses are in an ideal position to help families adapt to, and cope with the crisis. This has the potential of positively affecting the outcome of the patient's illness (Leske, 1986). Although there has been considerable research attention paid to the description of the needs of families of critically ill patients, there has been only a scarcity of research in the area of evaluating the effectiveness of interventions aimed at meeting those needs. Thus, it was recognized that there are few, if any research-based interventions for meeting needs of families. It is possible, even likely, that some families receive little, or only haphazard, nursing care to meet their needs as they confront the hospitalization of their loved
one. Critical care nursing scholars and clinical experts know that similar needs are consistently present in family members, so nursing efforts must be directed at meeting these predictable needs. Clearly, in this age of cost-consciousness and fiscal restraint, nursing time must be spent wisely, preferably on appropriately-tested interventions.

**Background and Significance of the Problem**

Critical care nurses have long witnessed the devastating effect that the critical illness of a loved one can have on the family. Observing these effects has perhaps been more frustrating since, due to the extremely demanding nature of the patient's critical illness, family needs have taken a backseat, or perhaps have not even occupied a place at all, in the nurse's list of priorities. However, given their continuous interaction with families, nurses still believe that they have a significant role to play in meeting these needs (Leske, 1986). In fact, assessment and intervention "...to meet the needs of families may have a positive effect on the outcome of the critically ill patient" (Leske, 1986, p. 189). This awareness of unmet needs has prompted considerable research effort in the area. In fact, the 1980's might be termed "the family needs decade," from a critical care nursing research viewpoint. A plethora of research was aimed at identifying and describing the needs of families of critically ill patients (e.g., Bernstein, 1990; Dracup & Breu, 1978; Freichels, 1991; Jacono, Hicks, Antonioni, O'Brien & Rasi, 1990; Leske, 1986; M'Hale & Bellinger, 1988; Mathis, 1984; Molter, 1979; Murphy, Forrester, Price & Monaghan, 1992; Norheim, 1989; Norris & Grove, 1986; Rukholm, Bailey, Coutu-Wakulczyk & Bailey, 1991; and Zawatski, Katz & Krekel, 1979). Molter's (1979) landmark study involved a list of 45 need statements. The researcher asked family members to indicate how important each need was, whether the need was being met, and, if so, by whom. The Molter study lead to further seminal and very important work, and there is now a shared understanding between critical care nursing
researchers and clinical experts as to the nature of these needs. Investigators have found highly consistent needs exist among families in the over 27 studies conducted between 1980 and 1989 (Leske, 1991b). Authors have described these needs in terms of five main themes: the need for information, the need for assurance, the need for proximity to the patient, the need for comfort, and the need for support (Leske, 1992). As well, there is consistency in the relative importance assigned to these needs by family members (Leske, 1991b).

Having "named" the distress that they were witnessing amongst families (unmet family needs), critical care nursing researchers have also sought to explain it. Several theories have been invoked in attempts to understand the family's response to the critical illness of a loved one, including crisis theory (Bernstein, 1990; Caplin & Sexton, 1988; Freichels, 1988; Halm, Titler, Kleiber, Johnson & Montgomery, 1993; Leske, 1986; Lynn-McHale & Bellinger, 1988; Norheim, 1989; Spatt, Ganas, Hying, Kirsch, & Koch, 1986); Lazarus' stress, coping and appraisal theory (Halm et al, 1993; Rukholm, Bailey, Coutu-Wakulczyk, & Bailey, 1991); and systems theory (Bernstein, 1990; Jacono, Hicks, Antonioni, O'Brien, & Rasi, 1990; Mathis, 1984; Norris, 1986).

Several investigators have urged that, in light of the developing body of knowledge in the area of critical care patients' family needs, interventions be developed and tested to meet those needs (Daley, Kleinpell, Lawinger, & Casey, 1994; Clarke, 1994; Halm et al, 1993; Henneman, M'Kenzie, & Dewa, 1992; Hickey & Leske, 1992; Molter, 1979; Norris, 1986). Few studies of this nature have been published thus far (Chavez & Faber, 1987; Daley et al., 1994; Dracup & Breu, 1978; and Henneman et al., 1992).

To restate the problem that was addressed by this study, there is a lack of tested nursing
interventions for meeting the needs of family members of patients hospitalized in a critical care unit. The significance of unmet family needs in critical care units is evident. More than one third of critical care nurses in one study said they did not feel they had the requisite knowledge or skills to meet these needs (Hickey & Lewandowski, 1988). Therefore, just how much involvement by the bedside nurse is appropriate remains controversial. At the very least, concrete, practicable interventions could provide a foundation for a minimum standard of care for these families.

Since attempts to meet family needs are very frequently made using an interdisciplinary approach (including nurses, physicians, social workers and pastoral/spiritual care workers), this problem is also of interest to these disciplines. For example, research has shown that "to talk to the physician once a day" is a consistently highly-rated need (Hickey, 1990). Any intervention designed by nursing which includes the nursing role of facilitator of meetings with the physician, concerns physicians. Similarly, others of the above health care professionals have a interest in the approach taken by nursing to family care, since all roles are complementary, and the working relationships are, ideally, collaborative.

The interest this subject holds for consumers of health care is limited to those people who have had, or are having, an encounter with a critical care unit. However, it is noteworthy that the future is predicted to hold an expanded critical care focus, perhaps hospital-wide, due to formation of regional hospitals with solely critical care mandates (Greeneich & Long, 1993). Although Greeneich and Long write from an American standpoint, the truth is not far from this in British Columbia. Agreements have been signed and are being implemented to concentrate certain tertiary and quaternary care services, such as critical care and cardiac sciences, in
particular hospitals, to avoid duplication of effort and expense. This, coupled with Closer to Home initiatives, and increased acuity of the average hospital patient due to funding cutbacks, is resulting in the genesis of the almost totally critical care hospital. It is therefore more crucial that nursing interventions for families of critically ill patients are tested, so that the expanding critical care environment responds to the needs of all its users.

Purpose of the Study

The purpose of this study was to evaluate the effectiveness of a nursing intervention in meeting previously highly-rated needs of families of critically ill patients, specifically those related to support, comfort, information, proximity and assurance.
Chapter 2

Review of the Literature

Nursing researchers have conducted a plethora of studies related to the needs of families of critically ill patients. In fact, one reviewer suggests that the 1980's might be termed the decade of family needs assessment research (Leske, 1991b). As well as descriptive studies, aimed at identifying the needs of family members of critically ill patients, nursing investigators have, more recently, directed some (although very little) effort towards evaluating the effect of nursing interventions to meet family needs. A review of this literature was conducted, using Medline and CINAHL databases, from 1978 onwards. Studies involving family members of adult, critically ill patients formed the sample. This review and a critique of family needs research will be presented. A survey of crisis theory literature will also be provided, to elucidate the theoretical foundation upon which the proposed study is based.

Critical Care Family Needs Assessment

Early Studies

One of the earliest nursing studies investigating family needs was conducted in a non-critical care setting. It involved examining the needs of the grieving spouse in the hospital setting (Hampe, 1975). The objectives of the study were actually twofold: to determine whether or not spouses of terminally ill patients can identify their own needs; and to identify whether they perceive they have been helped by nurses. Using a semi-structured interview technique, Hampe interviewed 27 spouses during their mates' terminal illness, and reinterviewed 14 of the spouses after the death of their mate. A wide variety of ages and years of marriage to the patient were represented in the sample. Socio-economic status was estimated using an index system. Although the vast majority of subjects were estimated to be "upper-lower" status, these terms were not defined, thus comparison of this variable to that of other samples in other studies is
difficult. The investigator developed the interview instrument, following review of literature on
death, grief, and bereavement. Face validity was established prior to data collection, and
reliability and concurrent validity were established during data analysis. The findings indicated
that spouses expected the physician to inform them of the relative's prognosis, while they saw
the role of the nurse as being to inform them of day-to-day progress. Spouses also believed that
the primary responsibility of the nurse was to the patient, and that they were too busy to help
families. Another significant finding of Hampe's study was that there was consistency among the
subjects in the needs they identified: 25 out of 27 (93%) identified the same eight needs. These
were: (a) to be with the dying person; (b) to be helpful to the dying person; (c) for assurance of
the comfort of the dying person; (d) to be informed of the mate's condition; (e) to be informed of
the impending death; (f) to ventilate emotions; (g) for comfort and support of family members;
and (h) for acceptance, support, and comfort from health care professionals. These last findings
are of particular interest to the current problem, because Hampe's eight needs have formed the
basis for the majority of subsequent research efforts, including Molter's notable study (1979) of
the needs of critically ill patients.

Before Molter's study (1979), however, Dracup and Breu (1978) published the results of
what they termed a "research utilization" project, utilizing Hampe's findings (1975), as described
above. The reported process, however, had all the elements of formal research. In fact, this
project could certainly be considered both a descriptive and an evaluative study, since an
intervention was implemented and evaluated following baseline assessment of spouses' needs.
The setting was a coronary care unit (CCU), and the sample was 26 spouses, 13 of whom
received no special nursing intervention, and 13 of whom received a new standard of nursing
care. Demographic data were collected, but not reported. Dracup and Breu deemed Hampe's eight needs generalizable to the population of critically ill CCU patients' spouses, since both they and the spouses of terminally ill patients face a great potential loss. Therefore, Hampe's tool was used to collect baseline data---not to identify what their needs were, primarily, but to determine whether or not these needs were met. This tool consisted of open-ended questions, and the eight needs were predetermined (even prior to Hampe's 1975 study). It is not clear whether these were the only needs introduced during the interviews by the data collectors, which would potentially have limited the range of responses. At the same time as baseline data collection, CCU staff nurses received education on grief and loss, and then developed and implemented a standard care plan for meeting the needs of spouses. Follow-up measurement of whether needs were met was conducted on the 13 spouses who received the new standard of nursing care. The outcome (intervention) group's demographic characteristics were not significantly different from the non-intervention group, allowing valid comparison between groups. Hampe's eight needs were also employed as a framework to guide the content analysis of the data, which calls into question the sensitivity of the analysis to themes not previously identified in Hampe's study.

The findings were that Hampe's eight needs were identified as important to critically ill CCU patients' spouses as well, lending credence to the generalizability of Hampe's original findings. It was also shown that a standardized nursing approach to spouses of these critically ill patients, aimed at meeting these needs, improved need satisfaction. This study was significant because it made the link between the empirically-identified needs of grieving spouses and those of the critically ill patient's spouse, a link which may seem obvious now, but which had not, heretofore, been made.
One final, early study is notable for its identification of the perceived effectiveness of the nurse in meeting family needs. Zawatski, Katz and Krekeler (1979) asked spouses of CCU patients to rate their degree of satisfaction with nursing care, using subscales of intrapersonal, interpersonal, and educational qualities or attributes. The findings indicated that spouses were generally more satisfied with the personal qualities of the nurses than they were with the extent to which nurses supplied them with information about their spouse and his or her illness. Multiple tests of comparison amongst the subjects were conducted to determine if any significant differences were due to factors such as gender or previous exposure to that unit. All were nonsignificant. Consistent with the notion that the information-giving role of the nurse was less evident, physicians were rated as more helpful than nurses, a finding which was statistically significant. This study underscored, perhaps, the niche which nurses were failing to occupy, an unrealized potential for nursing. Early studies, then, set the stage for more thorough and focussed examination of critical care family needs.
Review of the Literature

The Critical Care Family Needs Inventory

In 1979, influenced by Hampe (1975) and Dracup and Breu (1978), Molter undertook a study to determine what the needs of families of critically ill patients were, how important they were, if they were being met, and by whom. Molter developed a now-well-known, 45-item inventory, through a review of the literature and a survey of graduate nursing students. The tool contained a Likert-type scale with which families were asked to rate the importance of each need, from very important to not important. In 1983, Leske, in collaboration with Molter, reordered the 45-item instrument, using a table of random numbers, and one additional open-ended item was added which asked subjects to identify needs other than those on the list (Molter & Leske). No new needs were identified, and the open-ended question was dropped. The new tool was named the Critical Care Family Needs Inventory (CCFNI), and has since been used extensively in critical care family needs research. Molter's and six other such studies, which used the CCFNI exclusively, will now be reviewed.

Molter (1979) used crisis theory as the foundation of her study, and conducted it in two hospitals' medical and surgical intensive care units. The researcher conducted a structured interview with 40 relatives of critically ill patients, following the patients' transfer to the general ward. The patients had to have been in the ICU for 72 hours or more, and relatives were all at least 18 years old. In this sample, only 25% of the subjects were women, which seems low (see following studies). No explanation is given for the over-representative number of men. Seventy-five percent were either spouses or children of the patients. Socioeconomic status was measured, and participants were found to be mostly at least junior high school or high school graduates, occupying skilled and semi-skilled positions. Molter did not report the number of
Review of the Literature

patients or their diagnoses.

The results identified that, of the 45 items, following five needs were most important: (1) to feel there is hope; (2) to feel that hospital personnel care about the patient; (3) to have the waiting room near the patient; (4) to be called at home about changes in the condition of the patient; (5) to know the prognosis. Neither these needs nor the remaining five of the top ten needs varied significantly with age, gender, or socioeconomic status, indicating that they were very important to most relatives. Four needs were met less than 50% of the time: (1) to talk to the doctor once a day; (2) to be told about chaplain services; (3) to have a place to be alone while in the hospital; (4) to have someone to help with financial problems, and these unmet needs were considered important or very important by from 8% to 58% of subjects. Finally, in answer to the question of who met the needs, Molter found that the majority of needs were met by nurses; the fact that the investigator identified herself as a nurse may have contributed to nurses being identified so frequently. Seven of the needs were met mostly by physicians: Family members reported that the need for information concerning the plan of treatment and the prognosis was most often met by the physician, which was in keeping with Hampe's (1975) study. Also similar to Hampe's findings was the relatives' belief that health care personnel of all categories should have the patient's welfare as their primary concern, not the relative's. This was contrary to Molter's and others' (Hymovich, 1974; Olsen, 1970; Richardson, 1945; Roberts, 1976) underlying assumption about the inclusion of the family in the provision of "total patient care", and resulted in her urging that further research be conducted in the area of family care in critical care settings. And her call was answered.

Mathis (1984) replicated Molter's study (1979) using a smaller sample, and compared
needs of 11 relatives of patients with, and 15 relatives of patients without brain injury. For the theoretical framework, she used systems and self-concept theory. The two groups were somewhat dissimilar to each other in terms of gender (all females in the relatives-of-non-head-injured group, versus 73% female in the relatives-of-head-injured group), necessitating caution in making intergroup comparisons. Socio-economic status was not reported. The timing of the interview was the same as in Molter's study. Molter's tool was used exactly as Molter had used it (not re-ordered). When comparing the findings amongst these two groups and Molter's findings, Mathis found that need importance did differ amongst the three groups. Mathis proposed that an explanation for the difference seen amongst the groups was the heightened feeling of physical separation experienced when a loved one has neurological dysfunction. The author also suggested that the differences between her two groups may have also been due to the differences in demographics. There was some correlation between the three groups, nonetheless. For example, respondents in all groups identified similar needs as *not important* (to have visiting hours changed in special circumstances; to talk about negative feelings; to be encouraged to cry; to have another person there when visiting the relative). Also, more than 50% in all three groups thought that the same eight needs were very important, and these, Mathis concluded, could be viewed as applicable to all family members of critically ill patients.

Bernstein (1990) also studied critically ill neurological patients' relatives using the CCFNI, and asked the same research questions as Mathis (1984) and Molter (1979), though comparison was made not to Molter's data, but to other ICU patients having cardiac diagnoses. Once again, the replicability of findings is notable, and differences between the neurological and cardiac relative groups were generally non-significant. However, individual analysis of variance
ANOVAs did reveal that the cardiac group ranked "accessibility to information" needs higher than did the neurological group, which was explained by the investigator as being due to less attendant shock in relatives of cardiac patients, and a resultant ability to define their informational needs earlier. This explanation may be plausible in the case of cardiac surgery, though is less so in the case of the relative of a patient with myocardial infarction, which is unexpected and often leads to intense shock (Caplin & Sexton, 1988). Generally, this study added support to the contention that family members of critically ill patients have fairly universal perceived needs.

Rodgers (1983) and Norheim (1989) both examined the needs of relatives of cardiac surgery patients, Rodgers during the postoperative period, and Norheim during the intraoperative period. No theoretical framework was identified in Rodgers' research report, although Hymovich's notion of total patient care (1974) was emphasized in the preamble; Norheim relied on family systems and crisis theory. Both investigators utilized Molter's tool, but it had been modified slightly (reordered), into the CCFNI, by the time Norheim conducted her study. Rodgers also modified the tool herself, rewording some of the need statements. The samples were predominantly comprised of women (unlike Molter's), reflecting the greater number of men who were undergoing cardiac bypass surgery. Other demographic variables that were reported were similar to Molter's sample.

Results were similar to Molter's, indicating that receiving honest information and reassurance were of highest importance. Specifically, the need for information regarding the patient's progress was ranked highly in Norheim's intraoperative study, and was not met in 66% of respondents. This may be due to the fact that relatives typically wait without news during the

13
intraoperative period, when they may feel the need most acutely. Only two of Molter's top ten needs were not identified in Rodgers' sample's top ten needs. Rodgers and Norheim both reported the needs to be alone and to be encouraged to cry as ranking low, whereas Molter and Leske's studies showed them to be highly ranked needs; therefore, these needs may be related to diagnosis. Contrary to the assumption commonly held by nurses that families are concerned with equipment and sounds, the need for explanation regarding equipment was ranked fairly low (29th) by Rodgers' subjects. Norheim also compared spouses' needs with those of other relatives. t-tests indicated that some needs did differ significantly between the groups, spouses being more concerned than other relatives with maintaining homeostasis through support and comfort. Subjects in both studies revealed that nurses met the largest number of needs, followed by physicians, which is comparable to Molter's original finding. These studies furthered the generalizability of the family needs knowledge that had been accrued thus far, while simultaneously focussing the questions on more specific populations of critically ill patients, both of which were important milestones for the field.

Leske (1986) undertook the collaboration with Molter described above, to produce the CCFNI. Leske then employed the tool herself in a study to identify the needs of family members of critically ill patients, and to compare the findings with those of the Molter study (1979). Crisis theory was the framework that guided the study, as it had in Molter's. The investigator collected data regarding the relationship of the relatives to the patient; relatives' gender (64% female); and patients' diagnoses and gender. Socioeconomic status of the sample was not reported. Leske's method differed from Molter's in two important ways: one was that relatives were interviewed much sooner in the critical illness (25% immediately, 75% within 48 hours). The
other difference was that each response entered into analysis represented a consensus response from all family members who participated in the interview, rather than an individual family member's response, as did Molter's. A total of 55 family members of 20 critically ill patients were interviewed, but only 20 responses were obtained. Leske computed mean scores for each item in both Molter's and her study, making the different sample sizes less relevant, but the method of obtaining the responses and, therefore, perhaps, the nature of the responses, were, nevertheless, different. Leske then compared Molter's and her results using the $t$ test.

There were differences between the results of the two studies. The following needs were rated significantly higher in Leske's study: (a) to have visiting hours changed for special conditions; (b) to have a place to be alone while in the hospital; (c) to talk about negative feelings; (d) to be alone; (e) to be encouraged to cry; and (f) to have someone to help with financial problems. The following needs were rated significantly lower in Leske's study than in Molter's: (a) to have comfortable furniture in the waiting room; (b) to be told about someone to help with family problems; and (c) to have a bathroom near the waiting room. The differences may be attributable to the more immediate interview, some even occurring in the emergency department, while Molter's data collection was after transfer of the patient to the general ward. However, there is no clear pattern in the differences to explain the effect of the passage of time on families' needs. There was also a high proportion of traumatic injuries in Leske's sample, but since Molter did not specify the diagnoses of the patients in her study, differences due to this variable cannot be measured, nor the reasons explained. Leske noted, however, that seven common needs still emerged as important in both studies, relating to information and (re)assurance. From these six studies, an appreciation of the most important needs of families of
critically ill patients was beginning to emerge.

**Critical Care Family Needs Inventory: Modifications and Adjuncts**

Spatt, Ganas, Hying, Kirsch and Koch (1986) reported a "quality assurance" study in which the CCFNI was used, and subjects were also asked to indicate if any needs were unmet. Information about the usefulness of an information pamphlet was also sought. The results were very similar to previous studies, with information and support needs rising high on the list again. Unmet needs were wide-ranging in nature, including the need for daily contact with the same physician and nurse; the need to differentiate various hospital staff and services; and the need to have explanations regarding the patient's progress. Nursing interventions and changes to the unit policies were developed in response to the results of the study, but their effectiveness was not reported in this account.

Critical care nurses' accuracy of perceptions of, and their empathy for family needs were brought into the research agenda by Lynn-M'Hale and Bellinger (1988) and Murphy, Forrester, Price and Monaghan (1992). Lynn-M'Hale and Bellinger claimed to have used a compilation of the CCFNI and Rodgers' "tool", but on close examination, the two tools appear to be identical, except for slight changes in wording. However, they sought to determine the ability of critical care nurses to accurately identify family members' need satisfaction. Similarly, using the CCFNI and an empathy rating scale, Murphy et al. studied the effect of critical care nurses' empathy on their ability to accurately identify needs. Both studies found nurses to be at least moderately accurate in ability to assess family members' needs and/or need satisfaction. However, the validity of Lynn-M'Hale and Bellinger's data analysis to determine what families' needs were must be called into question. They equated "strongly agree" ratings of need presence with
"unmet" need status. This is quite an assumption, and, as pointed out by Freichels (1991), it may be faulty; rather, very important needs may well be met, but may also continue to be perceived as needs, by virtue of their ongoing and critical nature. Murphy et al. also found, not surprisingly, that the more empathetic the nurses were, the more accurate they were in determining needs; however, it was a somewhat distressing finding that length of nursing experience negatively influenced accuracy of assessment. The investigators in these two studies recognized the importance of learning more about the ability of nurses to assess family needs, and factors which influence that ability. Although the Lynn-M'Hale and Bellinger study is weakened by difficulty in interpreting their tool and questionable assumptions in data analysis, both are useful for drawing attention to nursing's current abilities, and locating the importance of this skill in the overall nurse-family relationship. It is interesting to note that both teams of investigators downplayed the importance of the ability to accurately assess needs in the overall goal of meeting family needs.

One further variable was considered in designing a study to assess needs of relatives of critically ill patients: the effect of the passage of time. Freichels (1991) administered the CCFNI within 72 hours of admission, and then again seven to ten days post-admission. The findings were that some perceived needs did change between time one and time two, but this was only significant for five needs. Four out of these five became less important at time two, lending support to the hypothesis that family members may not be able to distinguish the relative importance of needs in the initial stages of a crisis. Whether or not a need is met may also affect its perceived importance, Freichels suggests. However, as suggested above, it is likely that some needs, although they may be met, are ongoing in nature, so continue to be ranked highly. A need
which is met, then, does not necessarily cease to be a need. The conceptual categories of "support" and "proximity" needs (see Leske, 1991b) changed the least over time, implying that nurses must assess and attend to these needs continually. This study added another dimension to the developing body of knowledge regarding critical care families' needs.

A team of nurse researchers attempted to discover the relationship of anxiety to needs in relatives of ICU patients. Theory of stress, appraisal and coping was the conceptual perspective taken, and the CCFNI, as well as the State Trait Anxiety Inventory, were used to measure the study variables. Results indicated that situational (state) anxiety and family needs were significantly related, and that worries, age, trait anxiety and family needs explained a large portion (38%) of variation in situational anxiety. Spiritual needs, as well as anxiety, also figured prominently in family needs. This study resulted in different findings from previous studies', and it also incorporated a French version of the CCFNI (for which validity had been reported extensively), as translated by one of the co-investigators. This is of importance to those whose nursing research is conducted in Francophone Canadian settings.

Finally, Norris and Grove (1986) modified the CCFNI into a 30-item tool, using the Q-sort method to sort and score Molter's original 45 need statements. Two items were also reworded. The resulting tool was used to study differences between nurses' and families' perceptions of needs. The needs identified by families as important were, again, similar to Molter's; the top four needs identified by nurses as important to families were also identified by families as important. Otherwise there were significant differences between the families' and nurses' perceptions, and at times nurses failed to coincide with families ratings of important needs. The authors concluded that both nursing curricula and practice should broaden to include
diagnosis of, and interventions for family needs, and that further research is needed to elucidate some of the relationships amongst nursing intervention and patients' and families' equilibrium. One other study was located which employed the Norris and Grove instrument (Jacono, Hicks, Antonioni & O'Brien, 1990); this is not included in this review, since it dealt with families of neonates.

Review and Meta-Analysis

Such a large amount of data regarding critical care family needs had accumulated to this point, that there was a need to bring some structure to this emerging field of knowledge. In launching the next phase in the evolution of critical care families' needs research, investigators acknowledged that common needs were beginning to emerge. Research attention was thus turned to pooling and reviewing data that had been generated thus far, and performing meta-analyses. These studies will be examined now.

In 1990, Hickey undertook a systematic review of the literature encompassing studies published from 1976 to 1988. The final analysis included eight replicable, primary research reports dealing with families of critically ill patients. Details of most of these studies have already been presented in this review; however, Hickey's summary and conclusions enhance the understanding of the data. Families' needs were highly consistent across the studies. The needs that were included in the top 10 needs in 100% of the studies were "to have questions answered honestly", and "to know specific facts regarding what is wrong with the patient and the patient's prognosis". "To know the prognosis/outcome/chance for recovery"; "to be called at home about changes in the patient's condition"; "to receive information once a day"; and "to receive information in understandable explanations" were included in the top 10 most important needs.
80-90% of the time. Needs that were unmet included "to talk to the physician once a day" (unmet in all three studies that included this question); and "to talk to the same nurse each day" and "to receive information regarding the patient's progress and changes in condition" (unmet in one of three studies). Physicians were seen as most likely to meet the most important needs in two of the three studies that asked the question, but nurses were identified as meeting nine out of ten most important needs in another study. A need described as one of the most important, that for hope, was met by a variety of sources in two of the three studies. Finally, Hickey compared Molter's, Mathis' and Leske's findings, and found there to be significant agreement on eight of ten needs. Hickey proposed a trifurcated model for describing the needs: those for information, for reassurance and for convenience, and recommended interventions to meet families' needs be designed and tested.

Leske (1991b) reported an analysis of pooled data from studies which had used the CCFNI in its entirety, and in which data were collected within the first 72 hours of admission. The final sample was drawn from 27 nurse researchers' studies, conducted in 15 states, over ten years (1980-1989). Complete data on 905 family members of 668 patients were analysed. Leske expressed confidence that this was a representative sample of available research results on critical care family needs. Two-thirds of the patients were male, and more than half of the families described their family member's illness as being related to the cardiovascular system. Once again, many needs were consistently identified as important, and Leske provided the top 15. Leske offered a three-part categorisation of needs in this report: those for assurance, for proximity and for information. In a subsequent paper, however, Leske (1991a) revised her model of critical care family needs to include five categories.
The purpose of Leske's 1991a work was to report a study which aimed to estimate the reliability and construct validity of the CCFNI. This is probably the final report of the same undertaking reported in Leske, 1991b, since the sampling and sample size are similar. Statistical tests performed were item analysis (including means, standard deviations, interitem correlations and item-total correlations); factor analysis, including extraction, rotation, interpretation and labeling; and examination of factor independence and reliability. The item "to have questions answered honestly" had the highest mean score of all of the items (3.92). All but two items had correlations between 0.25 and 0.60, which was acceptable, as were corrected item-total correlations. Therefore, no items were eliminated due to redundancy or lack of homogeneity. Factor analysis to test construct validity revealed that items fell into a four- or five-factor solution, when loadings of 0.30 or greater for each factor were accepted. Leske, in concert with 10 expert critical care nurses, named them. The final proposed solution consisted of the following factors: the need for support (15 items), support suggesting providing assistance and aid; the need for comfort (six items), comfort suggesting providing relief from distress or sorrow; the need for information (eight items), which reflected information- and knowledge-seeking through involvement; the need for proximity (nine items), suggesting the quality or state of being near or close (not only physically, but also emotionally); and the need for assurance (seven items), suggesting the quality or state of inspiring confidence, security, and freedom from doubt. Leske recommended further testing of the instrument, to determine replicability of her five-factor solution, and also to determine if relationships exist among the dimensions with respect to other variables, such as age, gender and ethnicity. Although her urging to continue analysis with larger samples is honourable, it is unlikely that such a large sample will ever be accrued again,
particularly since researchers are finally turning attention to the matter of designing interventions, not to continuing to identify needs. Leske's five-factor solution makes statistical, but more importantly, clinical and conceptual sense.

Although this current review has included studies published since Leske's 1991a report, and also some that used instruments other than the CCFNI, these have not uncovered any new, major themes in family needs. These analyses, therefore, and, it is argued, the whole body of literature presented thus far, provide a convincingly clear picture of the state of the knowledge of the needs of families of critically ill patients, and the consistency of those needs.

**Other Descriptive Studies**

Descriptive studies of family members of critically ill patients have not been limited to identifying their needs. Studies examining stresses spouses experienced; behavioural responses; the role of the critical care nurse with families; the process of visitation; perceptions of the experience of a cardiac surgery event; feelings experienced over time; and emotional responses were reviewed (Artinian, 1989; Caplin & Sexton, 1988; Clarke, 1994; Halm, Kleiber, Johnson, Montgomery, Craft, Buckwalter, Nicholson & Megivern, 1993; Hickey & Lewandowski, 1988; Kleiber, Halm, Titler, Montgomery, Johnson, Nicholson, Craft, Buckwalter; & Megivern, 1994).

**Qualitative Studies**

Three qualitative studies of family members of critically ill patients were retrieved in this literature review. Although all were descriptive, none examined family members' needs per se, but rather perceptions of their experience of a cardiac surgery event (Artinian, 1989), feelings experienced over time (Kleiber et al. 1994), and the process of visitation by family members (Clarke, 1994). Artinian used interviews and observations, and analysed data by a technique
resembling content analysis, although she did not name it as such (or anything else). Themes emerged, including feelings of fear and numbness; problems and concerns with staff-family relationships, with family relations, and with waiting; and several themes related to what was helpful for the family member, such as family and friends, faith in God, and confidence in self. This study contributed a richness in its view of the family member's perspective not possible with quantitative techniques. As with most qualitative research, the sample size was small, and the generalisability of the findings was thus limited.

Thematic analysis was used by Kleiber et al. (1994) to describe the feelings of families of critically ill patients over time. As might be expected, there was a wide array of feelings identified, ranging from sadness to joy, from fear to relief, and from hopelessness to hopefulness. No pattern emerged over time. Friends and nurses were listed as being most supportive, followed by physicians. The supportive behaviour of "presence"—not necessarily close physical presence, but openness and availability—was an identified theme, awareness of which may be useful for nurses. The investigators concluded that nurses must direct interventions toward individuals' changing needs.

Clarke's study (1994) was conducted using grounded theory methodology, and data were gathered through participant observation. His thoughtful data analysis lead to the proposal of the existence of a four-step process of family visits to ICU: (a) "getting into" the unit; (b) getting past fears and anxieties; (c) attempting communication with the patient; and (d) "being there" with the patient. Each stage of the process entailed tasks for the family member to accomplish, and these were thoroughly outlined. Some suggestions were offered about the link between nursing behaviours and successful passage through stages; the author correctly
Review of the Literature

cautionsed that the suggestions were tentative, since the study was descriptive in nature, but did 
urge that research efforts be turned towards further study of both the process and the content of 
family visits, including "what nursing actions during family visits are consistently associated with 
positive outcomes for patients and families" (p. 211). This well-executed qualitative study 
provided potential for innovation in critical care nursing practice and research.

Caplin and Sexton (1988) found that spouses experience a variety of stresses, and that 
CCU nurses' perceptions of those stresses were, on the whole, concordant with relatives' 
perceptions. The patients in this study all had myocardial infarction (MI), and the high degree of 
uncertainty of the severity of the MI was suggested as a possible cause for many of the stressful 
items identified.

Halm et al. (1993) examined sleep, eating, activity and stress response behaviours in 
family members of critically ill patients. They found sleep was negatively affected, and that 
eating and activity behaviours also changed, in conjunction with the loved one's hospitalisation. 
Specifically, activities changed over time from communicative activities (talking) in the first two 
days, to physical activities (getting out and doing chores) by the second or third days. The 
investigators suggested this may mean that people change the way in which they cope with 
stress over time, which seems a likely explanation. With regard to the stress response, findings 
showed that this decreased over time, suggesting that families can successfully adapt to the 
stress related to critical care hospitalisation.

Hickey and Lewandowski (1988) asked critical care nurses questions about their view of 
family visits in general, the role of the family in the critical care unit, the role they believed 
critical care nurses ought to play with families, and factors influencing their involvement. These
Review of the Literature

questions seemed well-timed, in view of all of the research and commentary that was appearing about family needs and nursing interventions to meet them. Overall, critical care nurses have a positive attitude towards families, although there was lack of consensus regarding the family's role. In terms of visiting, only 39% agreed that an official policy was followed, and as many as 93 different combinations of who should visit, when, and for how long were listed as what should be. The nurses did agree on some things, however: that dealing with families is emotionally exhausting, and that they still desired to become involved with families. It is significant to note that more than one third (39%) reported that they did not feel they had the requisite knowledge or skill to meet the psychosocial and emotional needs of families. Efforts to design nursing interventions for meeting family needs probably should attend to this finding, by incorporating at least some educational component into the implementation. The authors also recommended that there be further study of the subjective feelings which influence nurses' interactions with families. This was a small study, but important to contemplate for any person who is considering enhancing or otherwise changing the role of the critical care nurse with families.

These six descriptive studies form the perimeter of the problem of concern here, and add depth and texture to the overall understanding of the reality experienced by families of critically ill adults.

Nursing Interventions to Meet Critical Care Families' Needs

Only three studies were found that were designed to evaluate the effect of nursing interventions on family need satisfaction (Chavez & Faber, 1987; Daly, Kleinpell & Lawinger, 1994; Henneman, M'Kenzie & Dewa, 1992). Chavez and Faber used a pretest-posttest, two-
group experimental design to evaluate the effect of an education-orientation program on family members. Physiologic and stress variables were measured before and after the initial visit of all family members in the study; experimental subjects received the orientation program following initial data collection but before the first visit, whereas controls received no special orientation. The investigators found no significant differences between the groups in physiologic or stress variables, although there was a decrease in heart rate within the experimental group, following the orientation, and again following the visit. Understanding of the diagnosis was better in the experimental group. Based on this and the decrease in heart rate, the investigators concluded that the program had had a positive effect. Small sample size and the possibility of already-mobilized defense mechanisms protecting the family member from undue stress were acknowledged as limitations of the study. The recommendations included establishment of a nurse-liaison or clinical specialist position to serve as an adjunct communicator for the family. This is controversial; the one-to-one nursing ratio provided in many critical care units might make this difficult to justify, but the findings of Hickey and Lewandowski (1988) do suggest that many nurses do not feel adequately prepared to assume the role of psychosocial supporter and therapeutic communicator with families.

Henneman et al. (1992) conducted a study aimed at evaluating interventions for meeting families' need for information. The intervention took two forms: a flexible visiting hour policy and an information pamphlet. One group received restricted visiting hours and no pamphlet; one received flexible visiting hours only; and one group received flexible visiting hours and the pamphlet. The CCFNI was used in a modified form: families were asked not to rate the importance of each need, but to score whether or not the need was met. Also, only 15 needs
were included in the tool. Demographic data were collected, and a brief tool testing families' ability to recall certain information was also employed. The researchers found that open visiting hours increased family need satisfaction, and that the families who received the pamphlet had more knowledge about specific facts concerning the unit and their family member. The passage of a significant period of time during data collection was cited as a possible limitation to the study, since turnover and professional growth of staff could threaten validity. However, in implementing programmatic changes, it is difficult, if not impossible, to avoid this phenomenon. The investigators concluded that both interventions were effective in meeting families' need for information.

Finally, an information pamphlet was evaluated as an intervention to meet family needs by Daly et al. (1994), but they also evaluated the addition of a group session, in which two nurses provided a one hour forum for expression of feelings and concerns, and for asking questions. The dependent variables were need satisfaction as measured by the (modified) CCFNI, and anxiety, as measured by the state portion of the State-Trait Anxiety Inventory (Speilberger, 1977). As is so common in nursing research, the small sample size may have contributed to the failure to show significant differences amongst the three groups (a control group received usual care). A high percentage of family members who received one or both intervention indicated it/they was/were helpful, so it is possible that differences may have been demonstrable with a larger sample.

The needs of families of critically ill patients have been well-documented through research, as is evident from the foregoing review. Studies of other phenomena affecting families of the critically ill have also been described. Finally, a few significant studies evaluating
Review of the Literature

Interventions have also been located and examined. The needs of families of critically ill patients are known: that much is certain. And although intervention studies have begun to illuminate what interventions might be effective in meeting critical care families' needs, efforts to design and systematically evaluate nursing interventions aimed at this most important problem must continue, so that nursing can amass a sufficiently large body of research to make appropriate recommendations to clinical practitioners.

Crisis and Family Theory

This study had, at its foundation, the assumption that family members of critically ill patients experience, or are at high risk for experiencing, a crisis. To expand on this notion, a brief review of crisis theory, as well as a framework for understanding the family's function with the individual member, will be presented.

In order to locate the family in the individual's life, Caplan (1982) wrote about the family as a support system. He suggested that the family as a whole fulfills several functions for its individual members. These constitute a major contribution to the individual's health and well-being. Indeed, it is hard to imagine how anyone could survive and stay healthy without the significant input of family members in their lives. Given this conceptualization of the function of the family, it is clear that critical care nurses must intervene in ways to allow families to carry out these functions. Meeting the immediate needs experienced by the family of the critically ill patient would foster enactment of their pivotal, supportive role with their sick family member.

Caplan (1964), in Principles of Preventive Psychiatry, suggested a conceptual model for primary prevention of crisis. He argued that, in a general sense, crises are precipitated by a loss of basic "supplies", either physical, psychological or sociocultural, or threat of a loss, or an
increased demand for these supplies. Caplan noted that crisis is either an opportunity to move toward improved health and maturity, or a danger, in which there is movement towards decreased capacity to deal with problems. This is the "turning point" inherent in any crisis. There is also the opportunity to "intervene at that time and increase the possibility of a healthy outcome" (p. 37). Most individuals' problem-solving skills are sufficient most of the time. Occasionally, however, there are sudden "discontinuities", which may precepititate a crisis in an individual's life. The habitual mechanisms which have worked in the past are no longer sufficient for resolution of the problem, and this leads to tension. Caplan describes this as the first of four phases of a process through which individuals pass during crisis, culminating in a situation in which the problem can be neither solved through need satisfaction nor avoided through resignation or redefinition. Serious disorganisation "with drastic results" occurs following this "breaking point" (p. 41).

Major characteristics of crises, as identified by Caplan (1964) and Rappaport (1971) are (a) an imbalance between the difficulty and the resources available; (b) danger to basic need satisfaction, since old methods prove unsuccessful; (c) tension, resulting in negative feelings (e.g. fear, anxiety, shame, guilt); and (d) ineffective and disorganised behaviour.

Since the work is entitled Preventive Psychiatry, Caplan offered principles for professionals to employ when helping people avert crises or when assisting them during times of crisis. These are: (a) intervention during crisis may significantly counteract negative factors; (b) individuals actually desire help during a crisis; and (c) individuals are considerabaly more vulnerable to influence by others during a crisis. These very clear principles can also give direction for nursing to intervene with families facing the crisis of a family member's critical
Parad and Caplan (1965) expanded Caplan's 1964 work and defined a crisis as "...a period of disequilibrium overpowering the individual's homeostatic mechanisms" (p. 56). They further contended that to precipitate a crisis, the problem must be of basic importance, and be insoluable by the usual mechanisms. Rappaport (1971) reiterated much of Caplan's conceptual model (1964). She added that crises are self-limiting (usually one to four weeks), and that coping can be either adaptive or maladaptive. Conglomerating her own and Caplan's ideas, Rappaport advanced four implications for professional practice. She suggested that professionals may help individuals with their cognitive and perceptual grasp of the situation, that they can help the person in crisis manage negative feelings; that availability and use of interpersonal and institutional resources (such as nurses or others in the hospital setting) is important; and that, as Caplan stated, individuals are more susceptible to the influence of others at times of crisis than at other times.

From this review, it can be seen that families function as a key support system to the individual. As well, Caplan's classic conceptualisation of crisis (1964) strikes a familiar note with the critical care nurse who has observed family members of critically ill patients. The often unexpected situation has all the hallmarks described by Caplan and others as crisis, Phase One or Two. This conceptual model offers a point and a rationale for intervention, and this forms the theoretical basis for the proposed study. There will be additional discussion of crisis theory as a theoretical framework in Chapter 3.

Summary

The literature review has shown that there are clearly identified needs of family members
of critically ill patients. Different demographic characteristics of family members of differently diagnosed patients at different times in the course of the illness have still lead to identification of highly consistent needs. From analysis of nearly 1000 such subjects' need scores, a five-factor framework has emerged to describe the needs of these families: the need for support; the need for comfort; the need for information; the need for proximity; and the need for assurance. To ground the problem in theory, the family has been conceptualised as a support system. However, it is one that, at the time of critical illness of one of its members, is at risk for spiralling downward into a crisis. It is this tenuous situation that invited, indeed mandated, nursing intervention, to meet the well-known needs of the family, so that they can continue their vital function as a major support to the patient.
Chapter 3

Framework for the Study

The framework upon which the current study rested was built from family theory, crisis theory, and constructs of needs of families of critically ill patients. In this chapter, these elements will be brought together into an organised framework, which will provide a link between the theories and the purpose of the study. The concepts of interest will be defined, and linked to the study variables. These will also be operationally defined, and assumptions that were made will be explicated.

Conceptual Definitions

Caplan (1982) describes the family's function as that of a support system. He lists nine functions which the family performs in order to support a member:

1. collector/disseminator of information about the world
2. feedback guidance system
3. source of ideology
4. guide and mediator in problem-solving
5. source of practical service and concrete aid
6. haven for rest and recuperation
7. reference and control group
8. source and validator of identity
9. contributor to emotional mastery

All of these functions constitute a major contribution to the individual's health and well-being, and continue to have relevance to the individual who is critically ill. Given this conceptualization of the functions of the family, it is clear that critical care nurses must intervene in ways to allow families to carry out these functions. Meeting the immediate needs experienced by the family of the critically ill patient would foster enactment of their pivotal role with their sick family member.

The family, then, can be defined as a basic societal system in which members have a
common commitment to nurture each other emotionally and physically, through nine support functions (Caplan, 1982; Smilkstein, 1980). However, this crucial job, performed for the ill relative, becomes increasingly difficult for family members to perform, when they themselves may be in the throes of a crisis.

Crisis, as expounded by Caplan and Parad (1971) is a "period of disequilibrium overpowering the individual's homeostatic mechanisms" (p. 56). Caplan (1964) advised that primary prevention of crisis would hinge upon mitigating either the actual loss of basic "supplies", (physical, psychological or sociocultural), or the threat of a loss, or an would entail decreasing the demand for these supplies. As discussed in Chapter Two, Caplan noted crisis may be either an opportunity or a danger, and describes four phases, ending in serious disorganisation "with drastic results" following a "breaking point" in Phase Four (p. 41).

Both Caplan (1964) and Rappaport (1971) recommended that professionals seize the opportunity to intervene and improve the chance of a healthy outcome. They offered principles for the professional to follow when helping people avert crises or assisting them during times of crisis, as described in Chapter Two. These very clear principles can also give direction for nursing to intervene with families facing the crisis of a family member's critical illness. Most critical care nurses can recount observing family members of critically ill patients in all of the described phases of crisis. Caplan's notion of primary prevention, before the crisis escalates into disorganisation and total ineffectuality, is consistent with the nursing goal of promoting optimal health-- not only in the patient, by restoring and bolstering their support system, but also in the family member. Finally, the symbolic link a crisis may have to past problems, and the individual's perception of the problem, may both influence the outcome of the crisis. Caplan noted that
unsuccessful resolution of the crisis can result in ill health, not only for the individual, but also for those around him or her.

A conceptual definition of crisis is drawn from the above synthesis to become:

a period of disequilibration overpowering the individual's homeostatic mechanisms, so that usual problem-solving techniques do not work. Critical illness of a relative can be such a disequilibrating factor. There is a phasic progression towards eventual disorganisation of the individual, which can have drastic results. During a crisis, individuals are more likely to seek help, and are more susceptible to the influence of others, also. This represents an opportunity for nurses to positively influence the outcome of the crisis.

Restating Rappaport's (1971) four implications for professional practice, it can be suggested that professionals may help individuals with their cognitive and perceptual grasp of the situation; that they can help the person in crisis manage negative feelings; that the availability and use of interpersonal and institutional resources (such as nurses or others in the hospital setting) is of paramount importance; and that, as Caplan stated, individuals are more susceptible to the influence of others at times of crisis than at other times.

From this review, it can be seen that families function as a key support system to the individual. As well, Caplan's (1964) classic conceptualization of crisis strikes a familiar note to the critical care nurse who has observed family members of critically ill patients. The often unexpected situation has all the hallmarks described by Caplan and others as phase one or two of a crisis. These conceptualizations provided a context and a rationale for intervention, and formed the foundation for the theoretical framework for the study.

Since there is an opportunity for nursing intervention to positively influence the outcome of the crisis for the family member, prescriptions for intervention are needed. A reasonable place to start seemed to be to meet identified needs of family members, termed physical, psychosocial, and sociocultural "supplies" by Caplan (1964). Much research in nursing has resulted in an
understanding of the most important needs of family members of critically ill patients. Leske (1991a) has offered a five-factor system of naming these needs, and this was adopted as the conceptual definition of family needs:

[Family needs include] the need for **support**, suggesting providing assistance and aid; the need for **comfort**, suggesting providing relief from distress or sorrow; the need for **information**, which reflects information- and knowledge-seeking through involvement; the need for **proximity**, suggesting the quality or state of being near or close (not only physically, but also emotionally); and the need for **assurance**, suggesting the quality or state of inspiring confidence, security, and freedom from doubt. (pp. 240-241)

The relationship of the concepts becomes clear: the vital function of the family as support system is threatened as family members themselves sit tenuously on the brink of a crisis,
precipitated by the event of their relative's critical illness. If the tension of unsuccessful problem-
solving is allowed to continue, there can be a poor outcome for the mental health of the family
member. However, the crisis also presents an opportunity for the nurse to intervene to influence
the outcome positively. Interventions should logically be directed towards identified needs of
family members of critically ill patients: those for support, comfort, information, proximity, and
assurance. Figure 1 is a visual depiction of the framework.

**Research Question**

The study was designed to answer the following research questions:

Does exposure to a nursing intervention to meet the needs of family members of critically ill
patients improve family members' reports of

a) support need satisfaction, compared to reports following usual nursing care?
b) comfort need satisfaction, compared to reports following usual nursing care?
c) information need satisfaction, compared to reports following usual nursing care?
d) proximity need satisfaction, compared to reports following usual nursing care?
e) assurance need satisfaction, compared to reports following usual nursing care?

**Research Variables**

The dependent variable was need satisfaction, as measured by a modified version of the
CCFNI (Appendix I). A four-point scale was used to rate need satisfaction from "not met" to
"completely met".

The independent variable was the nursing intervention, which was a two-pronged
approach to family care: two written practice standards -- a procedure for initial orientation of
family members to the intensive care unit (ICU) and a protocol for care of family members in the
ICU; and written materials, including a commercially-available information booklet entitled "The Survival Guide", signs posted indicating the physician on call, and information regarding local services.

Other Relevant Terms

Family member was defined as any adult 18 years or older, who expressed a familial relationship to the patient either by ancestry or affinity, and who visited the patient while they were in the ICU.

A critically ill adult was defined as a patient 18 years or older, who was admitted to the ICU for at least 48 hours.

Assumptions

In conducting this study, it was assumed that (a) all individuals, therefore critically ill adults, are products of a family (Hymovich, 1974); (b) family members support and influence their critically ill relatives (Parad, 1982); (c) ICU nurses are in a position to recognize the needs of family members (Breu & Dracup, 1978); (d) family members could identify the extent to which their needs were satisfied; and (e) family members would respond honestly and thoughtfully to the questionnaire.

Summary

A framework has been developed and presented, constructed from family and crisis theory, and from constructs of needs of family members of critically ill patients. This framework solidly links theory to the clinical problem of unmet family needs, and provided a rationale for the current study's purpose and objectives. Definitions, both conceptual and operational, have been provided, and assumptions which were made have been explicated. This framework is thus
able to support the structure of the methods necessary to conduct the study.
Chapter 4

Methods

The foregoing chapters have pointed to the need for systematic evaluation of nursing interventions designed to meet the needs of families of critically ill patients. In this chapter, details of the current study will be discussed, including design, sample, setting, ethical considerations, measurement methods, data collection and analysis.

Setting

The general, medical-surgical ICU of a tertiary care teaching hospital was selected as the setting for the study. The hospital is a 500-bed general hospital in Vancouver, British Columbia, affiliated with the University of British Columbia. The hospital has several clinical foci, including thoracic and critical care services, and it is the provincial Heart Centre; both of these facts account for many admissions to the Unit. The ICU itself is a 15-bed unit, with 11 beds for the most acutely ill patients, who require invasive hemodynamic monitoring and complex treatments, ventilation, and intensive nursing care. Nurse-patient ratio for these patients is 1:1. The other four beds are designated "step-down", and they may be for patients who require less invasive monitoring, are less unstable, or require less intensive nursing observations or interventions. However, these beds may also be occupied by very critically ill patients, depending on the census of the unit as a whole. The nurse-patient ratio for these patients is 1:2 or 1:1. The unit has a broad referral base from throughout the province, and patients with a wide variety of diagnoses, including complications of cardiac surgery, sepsis syndrome and shock, adult respiratory distress syndrome, multi-system failure, are admitted. None of the other, more focussed critical care units (e.g. cardiac surgery, coronary care) was used, in order to keep the sample diverse, and to improve generalisability of the findings.
There are electric doors at the entrance of the unit, with an intercom for visitors to use to gain access. "Usual" nursing care of families at the outset of the study was as follows. The unit clerk was usually the one to respond to the intercom, and, after checking with the patient's nurse, either directed visitors to come in, or asked them to wait in the waiting room.

Immediately across from the doors is the small waiting room containing functional furniture; a bathroom and a pay telephone are nearby.

**Research Design**

The design selected to answer the research question was a post-test only design, with nonequivalent groups. This is considered pre-experimental, but it does offer improvement over a simple one-group design, by addition of the nonequivalent control group (Burns & Grove, 1994). The research situation in the study was structured as follows. The investigator ascertained, twice daily, what new patients had been admitted to the critical care unit and whether they had family members who were visiting at that time, or who were expected to visit. Except for a few exclusion criteria, all family members were eligible for inclusion (see Sample).

After obtaining the family member's informed consent, demographic data were collected (see Appendix II), and a modified form of the Critical Care Family Needs Inventory (CCFNI, Appendix I) was administered to the family member. Participants were asked to rate not the importance of each need, but the extent to which the need had been satisfied. These families were exposed to "usual nursing care" of families. Once enrollment in this group (Group 1) was sufficient, a formal, written procedure and protocol (Appendix III) were introduced to the nursing staff, by means of educational sessions in the unit, readings, and a bulletin board covering similar content. Some modifications to the existing information booklet, which was
being given to families, were also implemented at that time. After approximately five weeks, a second group of family members (Group 2) was recruited, demographic data were collected, and these participants were then asked to complete the modified CCFNI in the same manner as Group 1. Assignment to treatment or control groups was, therefore, on the basis of convenience and timing. An uncontrolled threat to validity was the fact that there was no pretest, and hence no link between treatment and change (Burns & Grove, 1994). The reasons for the decision to use this design will be now be discussed.

To truly link treatment to change, a study would have to include a pretest of the control group before exposure to "usual" nursing care of families, and a pretest of the experimental group before exposure to the experimental intervention. This would permit valid comparison of the extent to which need satisfaction changed (if at all) as a result of each type of nursing care, and not as a result of some extraneous variable. It was argued, however, in designing this study, that family members do not truly know all their needs until they have completed at least the first visit to the relative, since many important needs arise during the visit itself, and subsequently, in processes following the initial visit (Leske, 1986; Molter, 1978). In addition, it was seen as unduly burdensome for families to be subjected to a questionnaire before the initial visit to their relative. Furthermore, the initial visit itself is an important opportunity for nursing intervention (not to mention the first opportunity); thus, an ethical stance demanded that both groups receive, at least, usual care (Burns & Grove, 1994), starting with the first visit. Therefore, the next strongest design was chosen, the nonequivalent groups, post-test only design. To reiterate for clarity, in this context, post-test refers to post-exposure to nursing care--either "usual", or the experimental intervention. Since pretesting was deemed impractical and the conditions
necessary to create the situation unethical, it became ever more important to control other threats to validity, such as nonequivalence of groups, so that valid comparisons could be made, and some causality could be inferred between treatment and change.

These were the essential elements of this post-test only with nonequivalent groups design. Major threats to validity will be addressed in the section on Limitations in Chapter 6. Further details of the design will become apparent in the following sections.

**Treatment**

"Usual care" of families, as it existed at the beginning of this study, did not seem to be standardised in any way. Sometimes it was the assistant head nurse who made initial contact with family members, sometimes it was the unit clerk or the bedside nurse. The information booklet was given fairly consistently, but not always. Variable, and sometimes conflicting information was given to family members regarding visiting policies, often changing from nurse to nurse. Information meetings with physicians were arranged in a widely variable fashion, depending on the availability of the physician, the patient's status, the requests of the family, and the interpretation of these factors by the nurse. It was hypothesized that the satisfaction of family members' needs could be enhanced through a more consistent nursing approach. Therefore, a treatment was designed to ensure that their needs would be addressed and information provided. The treatment took the form of the implementation of newly-developed standards for nursing care (a procedure and a protocol), and the addition of an "insert" to the existing, commercially-available information pamphlet (Foundation for Critical Care, 1992). The standards were developed in collaboration with a group consisting of a staff nurse, two assistant head nurses, the patient care manager for the unit, a unit clerk, the unit's social worker
and the unit's pastoral care worker. Preliminary analysis of Group 1 data did not uncover any prominent areas of need which were not already addressed in at least one component of the intervention, so no changes to the intervention were made before implementation. The procedure format, normally reserved for psychomotor skills (Marker, 1987), was chosen for the initial orientation standard, in order to emphasize the routine, step-wise nature of this process. The protocol for ongoing care of the family included direction as to what to include in the nursing assessment, and interventions based on data gathered during assessment. It was intended to give clear direction to the nurse for a standard of care for all critical care families, as well as direction for individualising nursing care.

The new standards were introduced via education sessions, posters, and written materials for nursing and other health care staff. Physicians' input was also sought before the final versions of the standards were introduced, since some of the nursing activities detailed in the procedure and protocol involved coordinating meetings and communication between physicians and families.

**Population and Sample**

The target population from which the sample (both Group 1 and Group 2) was drawn is families of critically ill patients who are hospitalized in a tertiary care, general intensive care unit (ICU). It is suggested that the findings can be generalised to similar family members having a relative in a medical-surgical ICU in a tertiary care hospital. All family members were approached to participate, *except* those:

* less than 18 years old;
* who could not understand English;
* whose relative was admitted to the intensive care unit less than 24 hours, or
more than 96 hours prior to consenting;
*who were not the "primary" visitor, as deemed by the family and/or bedside nurse
*who were participating in any other research project.

Generally, only the "primary" visitor was approached. In a few cases, more than one family member per patient was included, if they expressed a desire to participate. These family members, in all cases, were equally frequent visitors and equally involved in the patient's progress, as the other participant relative.

Legal age was selected as a criterion for participation, since informed consent was required. There was no guarantee that reliable translation of the study instruments could be provided; however, if a potential subject had not been able to read English, the investigator was available to read the questions to him or her. No participants stated they could not read English; however, a few did request that the investigator read the questions to them, and this was done in those situations only. Items were simply read verbatim, with no interpretation or rewording provided to the participants. Originally, it was proposed that a participant's relative should have been visiting the ICU over a period of at least 12 hours, to allow time for subjects to adequately assess their own needs related to their family member's critical illness, and to ensure that they had had some exposure to usual or experimental nursing interventions for families (Freichels, 1991). However, after recruiting the first few participants, it became obvious that at 12 hours, family members still had not experienced many of the needs included in the CCFNI, and stated this to the investigator. Therefore, the minimum time since the relative's admission was extended to 24 hours, to increase the likelihood of family members experiencing many of the needs included in the CCFNI. One participant's relative had been in the ICU for five days, exceeding
the length of stay criterion outlined in the inclusion criteria. The relative had expressed a keen desire to participate and then was ill herself for two days, and unable to visit the patient. This family member was included, therefore, since the effect of the increased length of the patient's stay would not likely be realised by her.

Sample size was determined using power analysis for a medium-large effect size (0.65), a one-tailed t-test, a significance level of .05, and a power of 80% (Cohen, 1988). This analysis resulted in a recommended sample size of 30 in each group. Due to an agreed-upon time constraint, Group 1 recruitment was actually stopped at 26, and Group 2, accordingly, also comprised 26 subjects.

The sampling method was one of convenience, which had some limitations. Any family member who met the eligibility criteria and consented during the initial data collection period was assigned to Group 1 (control). Any family member meeting eligibility criteria and consenting during the second data collection period was assigned to Group 2 (experimental).

**Ethical Considerations**

The study was approved by St. Paul's Hospital Ethics Committee for Human Experimentation and the University of British Columbia's Behavioural Sciences Screening Committee. All potential subjects were approached by the charge nurse of the unit, or occasionally the bedside nurse, and given a Letter of Information, describing the study generally, and asking if they would be interested in meeting the investigator to receive more information. This was in compliance with the institution's policy on recruitment of subjects. The investigator then met interested family members, explained the study procedures, risks and benefits, and allowed them to ask questions. All but one of the potential subjects who reached the stage of
Methods
discussion with the investigator consented to participate, and signed an Informed Consent form (Appendix IV).

Steps were taken to protect potential subjects' rights. Potential subjects were informed they had the right to refuse to participate without altering, in any way, the care their relative received. Subjects were also told they could withdraw at any time during the study, which would last for only 20 or 30 minutes. They learned that response forms would be coded so that the identity of the subject remained confidential, and known only to the researcher, that data would be kept in the researcher's locked office, and that only the researcher's thesis committee members would have access to it.

Potential risks to the subjects were that some might have perceived responding to some items in the questionnaire as uncomfortable or stressful, or might experience fatigue from participating in this paper-and-pencil exercise. This potential risk was described to all potential participants. In fact, neither of these conditions was directly observed in or reported by any of the participants.

Participants were further informed that they might not realise any direct benefit from participation, except a possible therapeutic effect in being able to verbalise some of their needs. However, the potential benefit to family members of future critically ill patients was explained, that is, that effective nursing interventions would be available to assist them to meet their needs in time of crisis, thus allowing them to continue in their vital role as support to the patient.

Potential benefits to the hospital that were identified included improvement in the outcomes of critically ill patients, through assisting their families to continue their supportive role with the patient (Caplan, 1964; Leske, 1991a). Nursing staff stood to benefit from such a
study, since the findings could be incorporated into future standards of care for families, and thus streamline nursing assessment and intervention with families. No risks to the hospital were identified.

**Methods of Measurement**

Demographic data were collected (Appendix II) to allow description of the sample, and to ensure validity of intergroup comparisons. The effect of the treatment was measured using a modification of the CCFNI (Appendix I). In its original form, the instrument directs respondents to rate the importance of each of 45 needs. In the modification for the current study, a four-point scale was provided to rate *the extent to which needs are satisfied*, from 1 = not satisfied, to 4 = completely satisfied. The instrument was administered to Group 1 before implementation of the new standards, and to Group 2 following implementation of the new standards.

Psychometric properties of the original instrument, generated from analysis of raw data from a sample of 677, have been reported (Leske, 1991a). The reader is referred to the literature review for a more complete discussion of this report. The instrument proved to be robust for time, setting, sample size, and patient mix. Cronbach's alpha for the 45-item CCFNI was calculated to be 0.92. Factor analysis resulted in a five-factor solution, with items loading on each factor at 0.30 or greater, and six or more items loading per factor. The CCFNI, therefore, was believed to be reliable and to possess construct validity.

It is not statistically valid to conclude that the modified version of the CCFNI would have the same reliability or validity as the original instrument, although one would intuitively surmise that the unaltered constructs would be similarly valid. (Only the actual question asked in relation to the stem, and not the stem itself, was changed). Nevertheless, to determine the
reliability for the modified CCFNI in this sample, Cronbach's alpha was computed. Expecting to make use of Leske's five-factor solution, and potentially derive five "factor means" for between-group comparisons, factor analysis was also planned to examine the construct validity of this modified instrument.

**Data Collection**

Data collection was conducted by the researcher. If the time of consent was not a convenient time for the family member to complete the inventory, an appointment was made for a future, convenient time. Usually, however, all data were collected immediately following consent. The whole process took 20-30 minutes. Each subject's data were identified by a code number, which also appeared on their consent form, but these two documents were kept separately to ensure true confidentiality. Demographic data were collected by questioning the subjects directly, and by reviewing the patient's chart. Instructions for completion of the modified CCFNI were given to all subjects, and the researcher informed subjects of her availability during the time they were completing the inventory. A quiet room near the ICU was used for this phase. Although no subjects indicated difficulty reading English, some did request that the investigator read the items to them, and this was done in such cases. No interpretation or rewording of items was done. Data were stored in the investigator's locked office. A coding system was prepared, and data were entered into a data file on Statistical Package for the Social Sciences (SPSS) software as soon as possible after collection. Data were collected mostly during the daytime, Monday to Friday, although some participants were recruited during evenings and weekends. Each of the phases of data collection lasted six weeks.

**Summary**
Methods

The design of a study using a nonequivalent groups, post-test only design has been presented. Sample, setting and methods of data collection and measurement techniques have also been described. Careful consideration in development of these elements occurred, which contributed to the study's successful fulfilment of its purpose: to examine the effectiveness of a nursing intervention in meeting the needs of families of critically ill patients.
Chapter 5

Findings

In this chapter, details of the data analysis procedures will be presented, as well as the results. Recall that the purpose of the study was to evaluate the effectiveness of a nursing intervention in meeting previously highly-rated needs of families of critically ill patients. To fulfill this purpose, the research question was asked, does exposure to a nursing intervention designed to meet the needs of family members of critically ill patients improve family members' reports of need satisfaction, in the areas of support, comfort, information, proximity and assurance, compared to reports following usual nursing care?

Details of the data analysis procedure used to describe and compare the two groups, and the results of that analysis, will be presented first. Then, a description of the procedures followed to determine if need satisfaction differed from one group to the other will be provided. Finally, results of those comparisons will be presented.

All data were entered into a data file in the software program Statistical Package for the Social Sciences (SPSS®), and all statistical tests were conducted using that program. The significance level for the tests was preset at 0.05.

Description and Comparison of Groups

Demographic data were analysed first using descriptive statistics, and then intergroup comparisons were made with chi-square and t-tests. See Table I for a demographic profile of the participants in each of the two groups. Table II has a demographic profile of the patients in the respective groups.
### Table I
Demographic Profile of Participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship to patient: (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>spouse</td>
<td>35.4</td>
<td>23.1</td>
<td></td>
</tr>
<tr>
<td>child/grandchild</td>
<td>42.3</td>
<td>50.0</td>
<td></td>
</tr>
<tr>
<td>parent</td>
<td>11.5</td>
<td>11.5</td>
<td></td>
</tr>
<tr>
<td>sibling</td>
<td>7.7</td>
<td>15.4</td>
<td>1.38</td>
</tr>
<tr>
<td>Age (mean)</td>
<td>47.0</td>
<td>48.3</td>
<td>-0.29</td>
</tr>
<tr>
<td>Gender: (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>female</td>
<td>69.2</td>
<td>73.1</td>
<td></td>
</tr>
<tr>
<td>male</td>
<td>30.8</td>
<td>26.9</td>
<td>0.09</td>
</tr>
<tr>
<td>Length of time in Canada:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;30 years</td>
<td>22.8</td>
<td>19.1</td>
<td></td>
</tr>
<tr>
<td>&gt;30 years</td>
<td>61.0</td>
<td>64.9</td>
<td></td>
</tr>
<tr>
<td>does not live in Canada</td>
<td>15.4</td>
<td>7.7</td>
<td>-0.08</td>
</tr>
<tr>
<td>Total family income (mean)</td>
<td>$60,000-$70,000</td>
<td>$60,000-$70,000</td>
<td>-0.05</td>
</tr>
<tr>
<td>Had previous experience in ICU (%)</td>
<td>73.1</td>
<td>46.2</td>
<td>3.91†</td>
</tr>
<tr>
<td>Had paid employment (%)</td>
<td>65.4</td>
<td>65.4</td>
<td>0.00</td>
</tr>
<tr>
<td>Education level: (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high school or &lt; college or univ.</td>
<td>42.3</td>
<td>40.0</td>
<td></td>
</tr>
<tr>
<td>post-graduate</td>
<td>3.8</td>
<td>4.0</td>
<td>0.03</td>
</tr>
</tbody>
</table>

† - p = <0.05

The groups were very similar in all demographic variables measured, except in whether subjects had previous experience in ICU: significantly more of Group 1 participants had prior experience.

In addition to the above variables, data were also collected regarding the participants' place of birth, ethnicity, and language first spoken. Sixty-five percent of Group 1 members were born in Canada, with the other 35% indicating birthplaces from all over the world. Similarly, in Group 2, 62% were born in Canada, while the other 38% again hailed from a vast array of
countries. Group 1 participants' reports of ethnic identity indicated 54% to be Canadian or some combination of Canadian and another ethnic origin. In Group 2, Canadian or Canadian combination accounted for 41% of the group. The remainder of the identities described by members of both groups was widely variable, and did not tend to cluster in any one particular ethnic identity. English was the language reported as first spoken by 73.1% of Group 1 members, and 69.2% of Group 2 members, with many other languages comprising the other 26.9% and 30.8%, respectively.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group 1</th>
<th>Group 2</th>
<th>$\chi^2$</th>
<th>$t$-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean)</td>
<td>57</td>
<td>61</td>
<td>___</td>
<td>-0.73</td>
</tr>
<tr>
<td>Gender:(%)</td>
<td>female</td>
<td>50.0</td>
<td>34.6</td>
<td>___</td>
</tr>
<tr>
<td></td>
<td>male</td>
<td>50.0</td>
<td>65.4</td>
<td>___</td>
</tr>
<tr>
<td>Diagnosis:(%)</td>
<td>cardiac</td>
<td>46.1</td>
<td>26.7</td>
<td>___</td>
</tr>
<tr>
<td></td>
<td>vascular</td>
<td>3.8</td>
<td>23.0</td>
<td>___</td>
</tr>
<tr>
<td></td>
<td>respiratory</td>
<td>19.2</td>
<td>26.8</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>GI*/metabolic/endocrine/ID**</td>
<td>22.9</td>
<td>11.4</td>
<td>___</td>
</tr>
<tr>
<td></td>
<td>drug overdose/trauma</td>
<td>7.6</td>
<td>11.5</td>
<td>___</td>
</tr>
<tr>
<td>Length of time in ICU® (mean days)</td>
<td>2.0</td>
<td>1.9</td>
<td>___</td>
<td>0.00</td>
</tr>
<tr>
<td>Length of time in hospital® (mean days)</td>
<td>6.3</td>
<td>3.8</td>
<td>___</td>
<td>1.99</td>
</tr>
</tbody>
</table>

* gastrointestinal
** infectious diseases
® prior to relative participating in study

It should be noted that, although the mean age of the patients in each group was not significantly different, 68.8% of Group 2 patients were over 60 years old, 34% being over 75 years old. By comparison, Group 1 had only 58% over 60 years old, and only 11.4% were over 75 years old.
Findings

Examples of actual diagnoses were: cardiogenic shock, aortic aneurysm repair, pneumonia with respiratory failure, gastrointestinal (GI) bleeding, acute renal and hepatic failure, septic shock, and motor vehicle accident (MVA).

In summary, the demographic data indicate that the two groups were similar in most ways, except for the variable of prior experience with an ICU (more experience in Group 1); differences between the groups in length of time the patient had been in the hospital prior to the relative participating in the study approached statistical significance (longer in Group 1), but did not achieve it.

Measurement and Comparison of Need Satisfaction

To answer the research question, whether the nursing intervention improved family members' reported need satisfaction, CCFNI item means were computed for each group (Table III). Next, to measure reliability of the modified CCFNI, specifically internal consistency, Cronbach's alpha was computed for these data, and found to be 0.93. In calculating this, 10 items were deleted from the correlation matrix, because they had zero variance. Nevertheless, the internal consistency was high by this measure, so it seemed valid to then total all item means for each group, divide by the number of items (45), and thus derive a single "grand mean" for each group. The grand mean for Group 1 was 3.51, and for Group 2 it was lower, at 3.46.
### TABLE III

**RATING OF NEED SATISFACTION ON MODIFIED CCFNI**

<table>
<thead>
<tr>
<th>NEED</th>
<th>GROUP 1 (mean)</th>
<th>GROUP 2 (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To know the expected outcome</td>
<td>3.20</td>
<td>3.16</td>
</tr>
<tr>
<td>To have explanations of the environment before going in for the first time</td>
<td>3.31</td>
<td>3.52</td>
</tr>
<tr>
<td>To talk to the doctor everyday</td>
<td>2.91</td>
<td>3.00</td>
</tr>
<tr>
<td>To have a specific person to call at the hospital when unable to visit</td>
<td>3.68</td>
<td>3.82</td>
</tr>
<tr>
<td>To have questions answered honestly</td>
<td>3.61</td>
<td>3.65</td>
</tr>
<tr>
<td>To have visiting hours changed for special conditions</td>
<td>3.87</td>
<td>3.84</td>
</tr>
<tr>
<td>To talk about feelings about what has happened</td>
<td>3.68</td>
<td>3.08</td>
</tr>
<tr>
<td>To have good food available in the hospital</td>
<td>2.47</td>
<td>2.82</td>
</tr>
<tr>
<td>To have directions as to what to do at the bedside</td>
<td>3.45</td>
<td>3.47</td>
</tr>
<tr>
<td>To visit at any time</td>
<td>3.88</td>
<td>3.64</td>
</tr>
<tr>
<td>To know which staff members could give what type of information</td>
<td>3.39</td>
<td>3.56</td>
</tr>
<tr>
<td>To have friends nearby for support</td>
<td>3.38</td>
<td>3.54</td>
</tr>
<tr>
<td>To know why things were being done for the patient</td>
<td>3.60</td>
<td>3.65</td>
</tr>
<tr>
<td>To feel there is hope</td>
<td>3.40</td>
<td>3.42</td>
</tr>
<tr>
<td>To know about the types of staff members taking care of the patient</td>
<td>3.56</td>
<td>3.56</td>
</tr>
<tr>
<td>To know how the patient is being treated medically</td>
<td>3.57</td>
<td>3.61</td>
</tr>
<tr>
<td>To be assured that the best care possible is being given to the patient</td>
<td>3.76</td>
<td>3.80</td>
</tr>
<tr>
<td>To have a place to be alone while in the hospital</td>
<td>3.52</td>
<td>2.64</td>
</tr>
<tr>
<td>To know exactly what is being done for the patient</td>
<td>3.53</td>
<td>3.69</td>
</tr>
<tr>
<td>To have comfortable furniture in the waiting room</td>
<td>3.00</td>
<td>2.87</td>
</tr>
<tr>
<td>To feel accepted by the hospital</td>
<td>3.92</td>
<td>3.73</td>
</tr>
<tr>
<td>To have someone to help with financial problems</td>
<td>3.37</td>
<td>2.36</td>
</tr>
<tr>
<td>To have a telephone near the waiting room</td>
<td>3.60</td>
<td>3.59</td>
</tr>
<tr>
<td>To have a pastor visit</td>
<td>3.66</td>
<td>3.08</td>
</tr>
<tr>
<td>To talk about the possibility of the patient's death</td>
<td>2.91</td>
<td>3.21</td>
</tr>
</tbody>
</table>
TABLE III (cont'd)
RATING OF NEEDS SATISFACTION ON MODIFIED CCFNI

<table>
<thead>
<tr>
<th>NEED</th>
<th>GROUP 1 (mean)</th>
<th>GROUP 2 (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To have another person with you when visiting the critical care unit</td>
<td>3.73</td>
<td>3.87</td>
</tr>
<tr>
<td>To have someone concerned with your health</td>
<td>3.52</td>
<td>3.20</td>
</tr>
<tr>
<td>To be assured it is alright to leave the hospital for awhile</td>
<td>3.80</td>
<td>3.60</td>
</tr>
<tr>
<td>To talk to the same nurse every day</td>
<td>3.00</td>
<td>3.17</td>
</tr>
<tr>
<td>To feel it is alright to cry</td>
<td>3.77</td>
<td>3.65</td>
</tr>
<tr>
<td>To be told about other people that could help with your problems</td>
<td>3.45</td>
<td>3.04</td>
</tr>
<tr>
<td>To have a bathroom near the waiting room</td>
<td>3.60</td>
<td>3.54</td>
</tr>
<tr>
<td>To be alone at any time</td>
<td>3.23</td>
<td>3.29</td>
</tr>
<tr>
<td>To be told about someone to help with family problems</td>
<td>3.11</td>
<td>3.05</td>
</tr>
<tr>
<td>To have explanations given that are understandable</td>
<td>3.57</td>
<td>3.80</td>
</tr>
<tr>
<td>To have visiting hours start on time</td>
<td>3.89</td>
<td>3.60</td>
</tr>
<tr>
<td>To be told about chaplain services</td>
<td>3.35</td>
<td>3.07</td>
</tr>
<tr>
<td>To help with the patient's physical care</td>
<td>3.50</td>
<td>3.27</td>
</tr>
<tr>
<td>To be told about transfer plans while they are being made</td>
<td>3.56</td>
<td>3.00</td>
</tr>
<tr>
<td>To be called at home about changes in the patient's condition</td>
<td>3.28</td>
<td>3.40</td>
</tr>
<tr>
<td>To receive information about the patient at least once a day</td>
<td>3.69</td>
<td>3.50</td>
</tr>
<tr>
<td>To feel that the hospital personnel care about the patient</td>
<td>3.76</td>
<td>3.88</td>
</tr>
<tr>
<td>To know specific facts concerning the patient's progress</td>
<td>3.73</td>
<td>3.52</td>
</tr>
<tr>
<td>To see the patient frequently</td>
<td>3.96</td>
<td>3.83</td>
</tr>
<tr>
<td>To have the waiting room near the patient</td>
<td>3.83</td>
<td>3.76</td>
</tr>
</tbody>
</table>

Analysis of variance (ANOVA) was performed, comparing the difference in grand means by group, but controlling for the significant difference between the groups' previous experience in an ICU. The difference in grand mean need satisfaction between Group 1 and Group 2 was found to be not statistically significant (F=.964; p=.334).
Analysis of Internal Psychometric Properties of the Modified CCFNI

In planning the data analysis, the original logic was that if no difference could be demonstrated between the grand means of each group, then another possibility would be to determine if need satisfaction related to support, comfort, proximity, information and assurance differed between groups. These are the five categories of needs arising from Leske's analysis of the CCFNI (1991a). This approach demanded that a factor analysis be done first on the current data, to ensure that they "fit" Leske's solution. Also, since the instrument was a modified version of the CCFNI, and, as such, little was known about its internal psychometric properties, factor analysis was undertaken, to learn more about the instrument.

Factor analysis, with principal components extraction, and varimax rotation with Kaiser Normalization, was conducted using SPSS. This initially resulted in a three-factor solution, with many items loading at >0.35. However, SPSS deleted 10 items prior to the analysis, because of missing values, bringing the total item count down to 35. As well, although 0.35 was set as the cut-off for accepting item loadings, many items that loaded on one factor at >0.35 loaded on another factor at >0.35 concurrently, which calls into question the "goodness" of the fit of the solution. An attempt to force a five-factor solution, such as Leske's had been (1991a), was unsuccessful, with no items loading on the fourth or fifth factors. Therefore, the planned analysis of the data using the "factor means" would have been questionable, since Leske's five-factor solution was not confirmed in the current factor analysis, so this strategy was not pursued.

Rating of Applicability of Needs

An additional finding relates to participants' rating of some needs as not applicable. An
assumption was made, in using the items from the CCFNI, that these needs were important to family members, with varying degrees, as demonstrated by the many descriptive studies discussed in the review of the literature. However, the first few participants in the current study indicated that they had not experienced some of the needs in the questionnaire. Therefore, they obviously could not respond as to whether or not the need had been satisfied, when it hadn't been a need for them. Because of this, subsequent participants were instructed by the investigator to indicate when a particular need had not been experienced by marking the item N/A. From this, descriptive data were generated regarding which items (needs) were not applicable to participants. Although it was not the purpose of the study to be descriptive in this manner, it is a significant serendipitous finding, and will be reported. Note that this is, at best, a crude measure of need importance, since subjects were not given the opportunity to rank the importance of needs, but only to indicate if a need was not experienced by them.

A total of 12 items were ranked as "not applicable" (N/A) by five or more participants in each group (19%). There was remarkable consistency between the groups' rating of non-applicable items; in fact, only three items listed by more than five participants (19%) were not listed at that rate by both groups (to have explanations of the environment before going in for the first time; to have directions as to what to do at the bedside; to have someone concerned with your health). Table IV contains the items ranked N/A by at least five participants in each group, and the percentage of the total sample ranking them as such.
Findings

TABLE IV
ITEMS RATED "NOT APPLICABLE"

<table>
<thead>
<tr>
<th>NEED</th>
<th>Percent of Total Sample Rating &quot;Not Applicable&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>To have visiting hours changed for special conditions</td>
<td>27</td>
</tr>
<tr>
<td>To have good food available in the hospital</td>
<td>33</td>
</tr>
<tr>
<td>To have a place to be alone while in the hospital</td>
<td>27</td>
</tr>
<tr>
<td>To have someone to help with financial problems</td>
<td>56</td>
</tr>
<tr>
<td>To have a pastor visit</td>
<td>44</td>
</tr>
<tr>
<td>To talk about the possibility of the patient's death</td>
<td>23*</td>
</tr>
<tr>
<td>To be alone at any time</td>
<td>25</td>
</tr>
<tr>
<td>To be told about someone to help with family problems</td>
<td>19</td>
</tr>
<tr>
<td>To be told about chaplain services</td>
<td>38</td>
</tr>
<tr>
<td>To help with the patient's physical care</td>
<td>25</td>
</tr>
<tr>
<td>To be told about transfer plans while they are being made</td>
<td>31*</td>
</tr>
<tr>
<td>To be called at home about changes in the patient's condition</td>
<td>27*</td>
</tr>
</tbody>
</table>

* items previously rated as important or very important (pooled data from previous studies) (Leske, 1992)

Summary

Results of the study to evaluate the effectiveness of a nursing intervention to meet the needs of family members of critically ill patients have been presented. Demographic data revealed that the two groups were different in their previous experience with intensive care units, but otherwise similar in other variables for which data were collected. Statistical analysis showed that the instrument used to measure need satisfaction (a modified CCFNI) had high internal consistency. Because of this, all item means for each group were summed and divided by the total number of items, to produce a "grand mean" for each group. These were then compared using ANOVA, which allowed for control of the differences between participants'
previous experience. This revealed that differences between the two groups' need satisfaction was not statistically significant. To discover more about the internal psychometric properties of the modified instrument, factor analysis was conducted, but no viable solution emerged, calling into question the construct validity of the tool. A discussion of the possible reasons for the above findings, and factors which may have contributed to the findings, follows.
Chapter 6

Discussion of Findings

The major findings of the current study will now be discussed. Factors which may have contributed to the findings presented in the foregoing chapter, interpretation of the findings, and limitations of the study will be presented. Implications for nursing practice will be suggested, as well as recommendations for future nursing research in the area of the needs of family members of critically ill patients.

Major Findings

Overview

The research question guiding this study was: Does exposure to a nursing intervention to meet the needs of family members of critically ill patients improve family members' reports of:

a) support need satisfaction, compared to reports following usual nursing care?

b) comfort need satisfaction, compared to reports following usual nursing care?

c) information need satisfaction, compared to reports following usual nursing care?

d) proximity need satisfaction, compared to reports following usual nursing care?

e) assurance need satisfaction, compared to reports following usual nursing care?

Because a factor analysis did not support the use of the above five dimensions of family members' needs (see Chapter 5), the research question that was, in fact, asked was: Does exposure to a nursing intervention to meet the needs of family members of critically ill patients improve family members' reports of need satisfaction, compared to reports following usual nursing care? The results of analysis indicate that the experimental group's exposure to the nursing intervention did not change their reports of need satisfaction, compared to the control group's reports of need satisfaction. This could be due to factors related to the study design,
other uncontrolled threats to validity. It is also possible, of course, that the intervention, in fact, made no difference. A discussion of the above factors follows.

**Study Design: Pre-experimental**

A post-test only, nonequivalent groups design was chosen for this study, because it was believed to be the best design for the situation. The essential elements of experimental design are random assignment, a control group, and manipulation of the treatment (Burns and Grove, 1993). The benefit of random assignment is that one can reasonably expect to achieve equivalence in the groups. However, random assignment was one element that was missing in this design, making it pre-experimental. Instead, convenience assignment was used for this study, because it was impractical to randomly assign some family members to receive usual care and some others to receive the experimental intervention at the same time, within the same nursing unit. So the control group was enrolled before the implementation of the intervention, and the experimental group was enrolled after implementation of the intervention and passage of a reasonable period of time. This necessarily resulted in non-equivalence of the groups, which posed a threat to **internal validity**. It was hoped, however, that the groups would be alike enough to warrant valid comparison. With this in mind, demographic data were collected to determine the extent to which Group 1 and Group 2 were similar or dissimilar. As reported in Chapter 5, the groups were similar in many respects, but were dissimilar in one way.

This variable was previous experience in an intensive care unit (ICU), either as a patient or a visitor: significantly more Group 1 participants had had previous experience. One might surmise that this one difference could well account for the increased need satisfaction reported by this group, since it is reasonable to speculate that previous experience with an ICU setting
Discussion

may result in increased ability to identify one's own needs and obtain need satisfaction (Bernstein, 1990; Lynn-McHale & Smith, 1991; Williams, 1989). It is also claimed in crisis theory (Caplan, 1964) that a crisis may overwhelm the individual's usual problem-solving techniques; however, even having "usual" problem-solving abilities, learned through previous experience, is probably better than having none. Indeed, as presented in Chapter 5, analysis of variance showed that when this demographic difference was statistically controlled, there was no statistically significant difference between the groups' need satisfaction.

Another difference between the groups was also related to experience with the health care system, in particular, the hospital setting. The patients being visited by Group 1 members had been in the hospital (though not the ICU itself) longer than the patients being visited by Group 2 members. Although the difference approached statistical significance, it did not achieve it. One could speculate though, that this could have resulted in increased knowledge of "the system", including everything from the physical layout of the hospital, to the services offered there, to the system of medical housestaff coverage, which would have been similar to other areas of the hospital, to familiarity with medical devices, such as intravenous lines, enteral feeding, dressings, and other hospital equipment. It could also have meant that relatives had had longer to accept and adjust to their relative's illness, even if not the critical care phase, and thereby had had an opportunity to identify some of their own needs related to it. This covariate was entered into analysis of variance also (even though the groups were not statistically different on this variable), and again, the groups' need satisfaction turned out to be not statistically significantly different from each other.

Another difference that emerged between Group 1 and Group 2 was the age of the
Discussion

patients being visited. Although the mean age of the groups was not significantly different, more of Group 1 patients belonged to a younger age group: only 58% were over 60 years old, and only 11.4% were over 75 years old. By comparison, as many as 68.8% of Group 2 patients were over 60 years old, 34% being over 75 years old. How the younger patient age might have contributed to family members' slight increased need satisfaction is difficult to explain, but it may be that nursing staff are more effective at meeting the needs of relatives of younger patients. Perhaps critical illness in younger patients is perceived by nurses to be more of a crisis or catastrophe, and therefore nurses are more sensitive and attentive to the needs of the family members. Nurses may also identify more with younger patients, since they are more likely to be close to their own age, and therefore may be more likely to act in a more empathetic manner towards relatives of these patients. While these responses to younger critically ill patients would both represent understandable and acceptable patterns of practice for nurses, the corollaries to these hypotheses are somewhat disturbing: that family members of older patients are viewed as experiencing less of a crisis (which may be true [Hickey, 1992]), and receive less empathetic, less sensitive, and less attentive care. This may warrant further research.

The patients' diagnoses were not exactly alike between the two groups, and although there could have been differences in need satisfaction based on this variable, previous studies have not demonstrated significant differences in identified needs of families of patients of various diagnostic groups (Artinian, 1989; Bernstein, 1990; Caplin, 1988; Mathis, 1984; Norheim, 1989); therefore, this was not explored further.

There are at least three ways in which the groups may have differed, which could have impeded need satisfaction, but which were not measured. Related to diagnosis, a factor which
might feasibly have affected family members' need satisfaction is severity of illness. Had the patients in one group had a significantly greater severity of illness, this could have hampered need satisfaction. If the experimental group patients had been more seriously ill, for example, this might have, in fact, masked improved need satisfaction in their family members. The nursing workload existing in the unit during each group's study phase is a variable that could have limited the ability of the nursing staff to effectively intervene with family members, and thus also have "hidden" actual improvement in need satisfaction. Data on this variable were also not collected. Finally, the extent to which the experimental intervention was implemented with a given relative, or with a given group as a whole, was not measured. Statistically controlling for such a difference might also have caused as-yet-undetected differences in need satisfaction to emerge.

Thus, the nonequivalent groups design employed in this study can be an acceptable design if the groups turn out to be very similar to one another. It was the only practical choice for this research situation, but the groups proved to be dissimilar in one important way, and two other ways of possible importance. Statistical manoeuvres allowed control for this difference, so that the true effect of the intervention could be seen: it made no difference. However, it is a limitation in the study design that some other variables that could have affected need satisfaction were not measured. Having no data on these factors may have contributed to the inability to detect a difference between the groups' reported need satisfaction. This may have caused a Type II error, rather than the experimental treatment not effecting any change.

Other Findings

Need Satisfaction
Discussion

As well as the difference between the two groups' need satisfaction, it is useful to examine the actual degree of need satisfaction that was reported by both groups. Need satisfaction was very high in the control group (mean = 3.51), and although it did drop in Group 2 (mean = 3.46), this was also very high. Comparison with need satisfaction reported in other studies is not possible, since the only other intervention studies found did not use the CCFNI or comparable modifications to measure need satisfaction (Chavez & Faber, 1987; Henneman, McKenzie & Dewa, 1992; Daly, Kleinpell & Lawinger, 1994). Although it is tempting to compare these need satisfaction scores to scores obtained in previous descriptive studies, this would not be valid, since those studies measured need importance, and furthermore, measured it using a different tool (the original CCFNI). However, it is reasonable to examine whether previously highly-rated needs were highly satisfied in the current study. The 15 most important needs, as identified from pooled data (Leske, 1991b), were consistently highly satisfied in this study, with satisfaction on none of these falling below a score of 3.4, except "to talk to the doctor everyday" (mean 2.95). Although this need has been consistently rated as one of the most important, it has also been one of the most elusive to meet (Henneman, McKenzie & Dewa, 1992). This is of concern, but the difficulty in improving satisfaction with this need may stem from the fact that it is largely beyond the nurse's control. In the current study, the role of the nurse in this regard was characterised as that of a facilitator of family member-physician communication, not an "enforcer". Collaborative efforts, and studies to evaluate these efforts, are indicated.

Other needs that received low satisfaction scores (less than 3.0) were: to talk about the possibility of the patient's death; to be told about someone that could help with financial
problems; to be alone at any time; to have good food available in the hospital; and to have comfortable furniture available in the waiting room. These needs have been rated as less important in previous studies (Leske, 1991b), and this may explain the fact that their satisfaction was low: either subjects misinterpreted the question and rated satisfaction low because they perceived the need to be unimportant anyway, or, perhaps nurses (clinical and administrative) also do not perceive these needs to be important, so are less concerned with them.

Non-applicable Needs

Another result of data analysis was participants' rating of some needs as not applicable to them. This finding is probably consistent with previous studies', since most of these needs have previously been ranked as less important by participants (Leske, 1991b), even though in this study, participants were not exactly saying the needs were unimportant, only that they had not experienced them. It has been suggested that perhaps some of these needs should be deleted from the tool (Macey & Bouman, 1991), and these findings would support that.

By contrast, three of the needs rated as "not applicable" in this study were highly rated needs in previous studies. These were: to talk about the possibility of the patient's death; to be told about transfer plans while they are being made; and to be called at home about changes in the patient's condition. These statements also were not included in those deemed "not a need" by a panel of experts who sought to confirm the content validity of the CCFNI (Macey & Bouman, 1991). A possible explanations for the first two statements not being applicable to several participants is that data were collected early in the relative's critical illness, and so family members might not have had enough information (or emotional readiness) to talk about the possibility of the patient's death, and thoughts of transfer plans might simply have been
Discussion

premature. The third need may have been non-applicable to a high number of participants (27%) because many (approximately 36%) were from out-of-town, and it is common for relatives in this situation to spend virtually all of their time with the patient, since they have little else to do. Therefore, "calling them at home" becomes irrelevant.

Framework of the Study

Crisis Theory

Although crisis theory (Caplan, 1964) was utilized to understand the potential problem facing the family of the critically ill patient, family members' state of crisis was not measured specifically. Therefore, no comment can be made about the findings in term of crisis per se. However, need satisfaction was high, and this would be incongruent with the serious disorganization with "drastic results" (p. 41) that may ensue if the crisis continues to the final phase. Therefore, one may conclude that the nursing care family members received constituted primary prevention, which is recommended by Caplan.

Constructs of Needs of Families of Critically Ill Patients

The framework which guided the study summoned Leske's five-factor solution (1991a) to identify categories of needs that family members might experience. However this solution was not supported in factor analysis of the data obtained using the modified CCFNI. In fact, no solution emerged clearly during factor analysis. Since the reliability of the modified CCFNI was high, one can only conclude that the constructs as proposed by Leske do not apply to the modified CCFNI, since there was not the variance in the data to support the dimensions. It apparently measures a single dimension of the construct need satisfaction. This is important in planning for future research. However, it is believed that the constructs, whether the data
Discussion

variance in this sample reflected them or not, provided a useful framework to aid in understanding of an abstract concept (needs of family members) and in development of the intervention. Other categories of needs which have been suggested are the needs for hope, information, to be with the patient, to be helpful, to believe that staff care about the patient, and personal needs (Hickey, 1992). This could also prove useful in guiding the development of interventions. However, to truly add to nursing's knowledge, by building theory, the construct validity of need satisfaction amongst family members of critically ill patients must be more fully explored.

Limitations

Controlled Threats to Validity

Threats to statistical conclusion validity were controlled through use of a tool, the original version of which has been shown to have high reliability (Leske, 1991a), and testing of reliability (Cronbach's alpha) of the modified tool for these data; and by attenuating variation in treatment implementation, by following an education plan for implementation, outlined in Chapter 4. Since few statistical tests were performed to answer the research question (only one ANOVA), the probability of a Type I error due to the error rate problem was minimized.

A threat to internal validity was that of maturation. Nursing staff are likely to become more experienced in using standards over time; this is acknowledged, and was controlled by waiting a predetermined period of time (five weeks) following the education and implementation to collect Group 2 data. Although maturation is an undesirable occurrence in research, it is certainly desirable in clinical practice, and it would be unethical to discourage its occurrence.

Attempts to control evaluation apprehension in the subjects, which is a threat to
Construct validity, revolved around a clear statement that the family member's participation in the study would in no way affect their relative's care, and the researcher identifying herself simply as a student, and not as a member of the nursing staff. One can never ensure complete control of this threat to validity, however. Threats due to the Rosenthal Effect (experimenter expectancies) were controlled as much as was humanly possible through awareness of the phenomenon when collecting the data. Confounding levels of constructs were controlled by including many levels of the variable to be manipulated (nursing care of family members) The multi-faceted approach to family care in the experimental intervention (procedure, protocol, written material for families, consultation with, and referral to other disciplines, etc.) exemplifies this. Although it was also believed that the modified CCFNI would measure many levels of need satisfaction (five, as in Leske's solution [1991a]), this was not case, as will be discussed below.

Hypothesis-guessing can pose a threat to construct validity if subjects alter their behaviour based on knowing the hypothesis. In this study, subjects were not told whether they were pre- or post-implementation subjects (control or experimental), even though some asked. Of those who raised the question, some in Group 1 actually erroneously guessed that the "new approach to nursing care of families" had already been implemented, since they felt their needs were adequately met.

Although there was an intent to collect basic characteristics of those who refused to participate, to determine if there had been a significant interaction between selection and treatment, this turned out not to be possible, without violating privacy. Potential subjects apparently did not perceive the notion of participation to be excessively burdensome; therefore, participation rates were acceptable, making the likelihood of this threat to external validity small.
Discussion

Uncontrolled Threats to Validity

The most significant uncontrolled threat was that non-equivalent groups resulted from the convenience sampling procedure, threatening the internal validity of the study. This has been discussed fully above, and it was controlled statistically, for factors for which data were available. The post-test only aspect of the design limits the strength of the conclusions that can be drawn about the effect of the treatment. Post-test only meant that neither group's need satisfaction was measured prior to exposure to nursing care, either usual or experimental, which would allow a definitive link to be made between treatment and change. However, as has been argued, it is believed that this was the best design, given the clinical constraints of the situation.

A further threat to internal validity occurred as a result of an unanticipated change in the nursing resource personnel of the unit during the study period. The Critical Care Clinician, normally the staff nurses' clinical resource, and also the champion of the new standards for family care (and the investigator in this study), left the unit to take another appointment in the Nursing Department. This may have resulted in a reduction of the actual implementation of the intervention, and therefore its impact, since there was less clinical, day-to-day support for the staff in implementing and becoming familiar with the intervention. As mentioned previously, however, no measures were included to determine the extent to which the intervention was implemented, that is, the exposure of the participants to the "treatment". This would have been difficult to measure, but would have strengthened the study design, as discussed earlier. Lack of measurement of nursing workload and the patients' severity of illness also constitute threats to internal validity, as discussed in a previous section. Again, knowledge of the extent to which the groups differed on these variables might have lead to statistical control of these differences, and
Discussion

perhaps an unmasking of the effect of the experimental treatment.

An attempt was made to control threats to statistical conclusion validity by use of power analysis to determine appropriate sample size. This analysis included the assumption of a medium effect size, but perhaps this was an overestimation for such an intervention. A smaller effect size would have necessitated a larger sample size to detect a difference. Therefore, inadequate power in this study may have resulted in a Type II error: failure to detect a difference when one was actually there.

Threats to construct validity included mono-operation and mono-method biases. Since only one instrument, with one method of measurement, was employed, these could not be controlled. It was believed, however, that the CCFNI's reported construct validity and high reliability (Leske, 1991a) would translate somewhat to the modified version used in this study, and would minimize this threat. The diversity of the needs for which satisfaction was supposed to be measured by the modified CCFNI should have resulted in measurement of many aspects of the dependent variable, need satisfaction. However, in light of the non-confirmatory results of the factor analysis, and the high alpha coefficient demonstrated by the data, it is likely that the construct being measured was not multidimensional, but unidimensional. Therefore, threats to construct validity were incompletely controlled.

There may have been interaction between the setting and the treatment; for example, families with a relative in the tertiary care hospital where the study was conducted often did not live in the city where the hospital is located, creating needs specific to that fact. Therefore, external validity is limited, and confident generalisation of the findings beyond such a setting is not possible.
Discussion

Finally, the tumultuous times in which the health care system exists currently could not be controlled. A constant threat of, and some actual occurrence of, organisational restructuring, including restructuring of nursing work, and cuts to the budget--this was the backdrop of the current study. These factors were closely monitored, but did not appear to significantly affect the external validity of the findings. Considering these uncontrolled threats to validity, particularly threats to internal validity, one must view the study findings with caution.

Clinical Significance

It has already been shown that Group 1 and Group 2 were no different in their need satisfaction. Why this could be, when an innovation in practice was introduced, has been discussed in terms of some variables which might have contributed to intergroup differences, but about which data were not collected. The pre-existing nursing practice in the unit also deserves further exploration.

In undertaking this study, it was assumed that an innovation in practice would be developed and introduced as the experimental intervention. However, it must be understood that, of course, *some* type of nursing care was already being provided to family members in this unit, prior to the study. This was acknowledged as "usual care", but the assumption remained that the experimental intervention would be sufficiently different (a "medium-sized" effect) as to cause an observable (measurable) change in family members' need satisfaction.

The process used to develop the new intervention was to involve bedside nurses, the unit manager, and some other members of the interdisciplinary team who had regular contact with family members. This process was followed because it was believed that it would have two benefits: the first was that the resultant intervention would be clinically more practical, using
Discussion

input from some of the nurses who would be implementing it. Secondly, it was seen by the investigator, who was also the Clinician for the unit, to be an opportunity for these staff members, especially the nurses. They would have the chance to learn about, and to be positively affected by the research process, through first-hand involvement in a clinically relevant study.

What actually occurred, it seems, is that the procedure and protocol that were written essentially described current practice. Although there were some elements of the protocol that called on nursing staff to be more sensitive to family members' needs, and challenged them to meet those needs in ways which they did not use currently, for the most part, the procedure and protocol did not demand significant changes to practice. So, it is contended, there was no difference (clinical or statistical) in need satisfaction between the groups because the "experimental" intervention was already in place during Phase I, when control group data were collected.

Furthermore, as discussed above, it must be acknowledged that need satisfaction in both groups was high. Clinically, this is important, since this is the most important outcome that is sought in relation to family care in critical care, by whatever means possible. So although this study failed to support the hypothesis that a certain nursing intervention would improve family need satisfaction, need satisfaction was, nevertheless, high. It is very likely that the high observed satisfaction had more than a coincidental relationship to nursing care, since it is known that nurses are primarily responsible for meeting many, though not all, of families' needs (Molter, 1979).

What the overall high scores demonstrate is that nursing care of family members in this unit resulted in very high need satisfaction, both before and after implementation of the
experimental intervention. If one accepts the contention above, that nursing care did not differ significantly between the two phases of the study, then one could conclude that the nursing intervention described in the research protocol (written procedure and protocol, written materials for family members, and consultation with, and referral to other disciplines) resulted in high need satisfaction.

Conclusions

Statistical analysis of the data from this study indicates that need satisfaction did not change from Group 1 to Group 2. The reasons for this could arguably be attributed to a limitation in the study design: failure to measure variables which may have affected need satisfaction, which resulted in inability to control for the effect of those confounding variables. Nevertheless, overall need satisfaction was high in both groups, including satisfaction of previously highly-rated needs. Coupled with the fact that the "experimental" intervention was likely already in place during Group 1 data collection, it is concluded that the nursing care outlined in the intervention promotes satisfaction of important needs amongst family members of critically ill patients.

Implications for Nursing

It has been argued that the while the current study did not demonstrate that the experimental intervention actually improved need satisfaction in family members of critically ill patients, the nursing care provided both pre- and post-implementation did achieve high need satisfaction. Therefore, the intervention, including the procedure, protocol, written information and signs, is recommended for utilization in similar units, with similar types of patients and family members.
Since the important need "to talk to the doctor everyday" is still undersatisfied even with this intervention, it may be beneficial to frame the intervention in a multidisciplinary context, using such tools as clinical pathways, Care Maps®, or clinical practice guidelines, which are gaining acceptance as mechanisms for interdisciplinary collaboration. Through development of such a guideline, perhaps the importance of meeting the needs of the family might be more highly valued by physicians, and there might be improved compliance by them with defined standards of care. If there were input from physicians, it would also facilitate revising the intervention so that communication with the physician is outlined in a more structured, more explicit way. Only they, after all, can develop standards for their own practice.

Implementing the intervention should include an education program for existing staff, as outlined in the methods of this study. Beyond that, though, this nursing approach to family care must be included in the orientation process, just as the unit standard for management of the ventilated patient, or management of pulmonary artery catheters would be. Specific expectations for enactment of this role should also be built into the performance evaluation tools used in critical care units. Ideally, family theory and content related to the known needs of families of critically ill patients should be included in the curricula of post-basic critical care nursing programs, and now, also, interventions to meet those needs.

The implications of this intervention for nursing workload should be considered by nursing managers. The intervention was designed to be accomplished within the given staffing allotment of the unit where the study was conducted. This was primarily a one-to-one nurse-patient ratio, as well as an assistant head nurse on every shift. As has been mentioned, there were also a pastoral care and social worker present half- and full-time respectively, enabling
referrals. Similar staffing levels are recommended for the successful implementation of this intervention.

Plans for implementation should definitely include physicians also. During this study, only one session was given for the housestaff. In a teaching hospital such as the one in this study, housestaff change regularly, so educational sessions should be planned as part of orientation to the unit, if not added to residents' core education content.

**Recommendations for Research**

The current study has raised many questions which require further study. Firstly, a larger sample size would allow more complete analysis of the effect of the intervention on need satisfaction, as well as the effect of such variables as the family member's previous experience with a critical care unit, the patient's age, the family member's gender, and the length of the patient's hospitalization prior to the critical illness. Similarly, it may be beneficial to examine whether chronic illnesses causing critical illness affect family members' need satisfaction differently from acute illnesses. It is also strongly recommended that nursing intervention be linked to need satisfaction, but then also that the effect on patient outcomes, if any, be quantified.

The construct validity of the modified CCFNI was called into question by the factor analysis. Replication of this study might clarify this. As well, in view of the items that were rated as "not applicable" in this study and others (Macey & Bouman, 1991), it is suggested that it may be time to delete items and test the new instrument.

The necessity of developing and testing interventions which meet the need "to talk to the physician once a day" cannot be overemphasized. Interdisciplinary studies (medicine and
nursing) are needed to address this clinical problem; nursing cannot prescribe medical interventions, and yet nursing cannot abdicate involvement in any aspect of family care.

**Summary**

Critical illness is a devastating experience, with the patient's survival often being uncertain. This threatens the supportive function of the family, and, as such, has great potential to induce a state of crisis in the family. Critical care nurses have long recognized the acute needs of families of critically ill patients, and have wanted to intervene effectively. A lack of rigorously tested interventions has prevented this from becoming a consistent reality in critical care nursing practice.

Past research has clearly identified needs of families of critically ill patients, which remain consistent across various demographic characteristics of family members, different patient diagnoses, and at different times in the course of the illness. The time had come to build upon this knowledge, by designing a research-based nursing intervention to help families of critically ill patients, and to test it empirically.

Although the current study had its limitations, mostly stemming from its pre-experimental design, extension of the body of critical care nursing knowledge is possible from the results. The research question, "does exposure to a nursing intervention to meet the needs of family members of critically ill patients improve family members' reports of need satisfaction?" was asked and answered. Although the intervention did not improve need satisfaction reports, no statistically or clinically significant change in need satisfaction occurred. It is important to note that the pre-existing nursing approach to family care in this critical care unit achieved very high need satisfaction. The answer to the original question is "no". However, the answer to the
Discussion

question, "What is the level of need satisfaction reported by family members of critically ill patients following exposure to a nursing intervention designed to meet their needs?"-- is very high.

A written procedure and protocol, written information about the critical care unit, availability of material outlining local services -- these were the elements of the intervention. The intervention is recommended for implementation in like units, with like family members, but the momentum towards excellent care of family members of the critically ill must be maintained. Careful consideration must be given to the requirements for implementation of such an intervention: education and workload management must be adequate. Finally, the quest to expand knowledge in this area of critical care nursing must lead nurse researchers to further examine the psychometric properties of the instruments for measurement of need satisfaction, and to conduct multi-centre trials to achieve adequate sample sizes, which would allow multivariate analyses of the many factors which come to bear on the problem. Finally, it is time to collaborate with medical colleagues to design and test means to meet the need of the family to talk to the physician once a day. Together, not apart, a successful strategy could be found and implemented.
REFERENCES


References


APPENDIX I
MODIFIED CRITICAL CARE FAMILY NEEDS INVENTORY

Please rate how well you think each of the following needs has been satisfied, since your relative has been in the Intensive Care Unit, using this scale:

1. To know the expected outcome
   1  2  3  4
   not satisfied completely satisfied

2. To have explanations of the environment before going into the critical care unit for the first time
   1  2  3  4
   not satisfied completely satisfied

3. To talk to the doctor every day
   1  2  3  4
   not satisfied completely satisfied

4. To have a specific person to call at the hospital when unable to visit
   1  2  3  4
   not satisfied completely satisfied

5. To have questions answered honestly
   1  2  3  4
   not satisfied completely satisfied

6. To have visiting hours changed for special conditions
   1  2  3  4
   not satisfied completely satisfied
7. To talk about feelings about what has happened
   1  2  3  4
not satisfied  completely satisfied

8. To have good food available in the hospital
   1  2  3  4
not satisfied  completely satisfied

9. To have directions as to what to do at the bedside
   1  2  3  4
not satisfied  completely satisfied

10. To visit at any time
    1  2  3  4
not satisfied  completely satisfied

11. To know which staff members could give what type of information
    1  2  3  4
not satisfied  completely satisfied

12. To have friends nearby for support
    1  2  3  4
not satisfied  completely satisfied

13. To know why things were being done for the patient
    1  2  3  4
not satisfied  completely satisfied

14. To feel there is hope
    1  2  3  4
not satisfied  completely satisfied

15. To know about the types of staff members taking care of the patient
    1  2  3  4
not satisfied  completely satisfied

16. To know how the patient is being treated medically
    1  2  3  4
not satisfied  completely satisfied

17. To be assured that the best care possible is being given to the patient
    1  2  3  4
not satisfied  completely satisfied
18. To have a place to be alone while in the hospital
   1 2 3 4
   not satisfied completely satisfied

19. To know exactly what is being done for the patient
   1 2 3 4
   not satisfied completely satisfied

20. To have comfortable furniture in the waiting room
   1 2 3 4
   not satisfied completely satisfied

21. To feel accepted by the hospital staff
   1 2 3 4
   not satisfied completely satisfied

22. To have someone to help with financial problems
   1 2 3 4
   not satisfied completely satisfied

23. To have a telephone near the waiting room
   1 2 3 4
   not satisfied completely satisfied

24. To have a pastor visit
   1 2 3 4
   not satisfied completely satisfied

25. To talk about the possibility of the patient's death
   1 2 3 4
   not satisfied completely satisfied

26. To have another person with you when visiting the critical care unit
   1 2 3 4
   not satisfied completely satisfied

27. To have someone concerned with your health
   1 2 3 4
   not satisfied completely satisfied

28. To be assured it is alright to leave the hospital for awhile
   1 2 3 4
   not satisfied completely satisfied
29. To talk to the same nurse every day
   1 2 3 4
   not satisfied completely satisfied

30. To feel it is alright to cry
   1 2 3 4
   not satisfied completely satisfied

31. To be told about other people that could help with your problems
   1 2 3 4
   not satisfied completely satisfied

32. To have a bathroom near the waiting room
   1 2 3 4
   not satisfied completely satisfied

33. To be alone at any time
   1 2 3 4
   not satisfied completely satisfied

34. To be told about someone to help with family problems
   1 2 3 4
   not satisfied completely satisfied

35. To have explanations given that are understandable
   1 2 3 4
   not satisfied completely satisfied

36. To have visiting hours start on time
   1 2 3 4
   not satisfied completely satisfied

37. To be told about chaplain services
   1 2 3 4
   not satisfied completely satisfied

38. To help with the patient's physical care
   1 2 3 4
   not satisfied completely satisfied

39. To be told about transfer plans while they are being made
   1 2 3 4
   not satisfied completely satisfied

86
40. To be called at home about changes in the patient's condition
   1  2  3  4
not satisfied completely satisfied

41. To receive information about the patient at least once a day
   1  2  3  4
not satisfied completely satisfied

42. To feel that the hospital personnel care about the patient
   1  2  3  4
not satisfied completely satisfied

43. To know specific facts concerning the patient's progress
   1  2  3  4
not satisfied completely satisfied

44. To see the patient frequently
   1  2  3  4
not satisfied completely satisfied

45. To have the waiting room near the patient
   1  2  3  4
not satisfied completely satisfied

46. Other:
   1  2  3  4
not satisfied completely satisfied
APPENDIX II
DEMOGRAPHIC DATA COLLECTION FORM

Subject's ID #

1. What is your relationship to the patient?
   spouse (includes "significant other", common-law spouse)
   child
   parent
   sibling
   friend

2. How old did you turn on your last birthday?

3. What is your gender?
   F    M

4. In which country were you born?

5. How would you describe your ethnic or cultural identity?

6. What was the first language that you spoke?

7. How long have you lived in Canada?
   actual no. of years
   born here (all my life)

8. Please tell me the number on the card that best describes your total family income for the past year, before taxes and deductions.
   ____ or, ____ Do not know

9. Do you have previous ICU experience (either as a patient or a visitor)?
   yes
   no
10. Do you usually work, either full- or part-time, for pay?
   NO
   Part-time
   Full-time

11. What is the highest level of education you have completed?
   no formal education
   grade school
   high school
   some college
   college diploma
   some university
   undergraduate degree
   graduate program/degree

12. Patient's diagnosis:

13. Length of time patient has been: in ICU days
    in the hospital days

14. Patient's age: years

15. Patient's gender:
    F
    M

16. Do you live in:
    B. C. Lower Mainland
    B. C., outside Lower Mainland
    Canada, outside B. C.
    outside Canada
APPENDIX III(a)

NURSING CARE STANDARDS MANUAL

PROCEDURE

Initial introduction and orientation of family to ICU

TITLE: Procedure for initial introduction and orientation of family members (FMs) to ICU

RELATED STANDARDS: Protocol for ongoing care of family members of critically ill patient

LEVEL: interdependent

BACKGROUND INFORMATION:
Critical illness usually causes a crisis situation for the family of the patient (pt). Research has shown that families of critically ill pts have common needs. The health care team can support families by assisting them to meet these predictable needs. For the purpose of this standard, family is defined as any person the patient considers a source of love and support. This may include pets for some patients.

EQUIPMENT LIST:

1. ICU Survival Guide
2. individuals' cards (ICU, social workers', pastoral care)
3. list of local restaurants (incl cafeteria hours)
4. list of accommodation nearby
5. map of Downtown/West End

PROCEDURE

Unit Coordinator

1a) Ascertain, via call system, that this is first visit.

2. Instruct FM to be seated, and that Assistant Head/Charge Nurse will be right out to meet them.

Assistant Head Nurse

1. Introduce self, sit down with FM(s), ensuring privacy for conversation.
2. Assure that relative is receiving the best possible care, and acknowledge their uncertainty, fears, and anxiety.

1a) Due to large number of visitors to ICU, the Unit Coordinator cannot be expected to always know if family member (FM) has visited before.

1) Consider finding an alternate area if waiting room very busy.
## APPENDIX III(a)

### NURSING CARE STANDARDS MANUAL

#### PROCEDURE

<table>
<thead>
<tr>
<th>Initial introduction and orientation of family to ICU</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Inform of pt's current status while emphasizing difficulty in knowing, at this point, how illness will progress.</td>
</tr>
<tr>
<td>4. Encourage and answer questions, reinforcing basic information as necessary.</td>
</tr>
<tr>
<td>5. If physician available, offer meeting with him/her.</td>
</tr>
<tr>
<td>6. Prepare family to visit pt:</td>
</tr>
<tr>
<td>a) ask if any prior experience in a critical care unit</td>
</tr>
<tr>
<td>b) describe equipment in simple terms: ventilator, bedside monitors and alarms</td>
</tr>
<tr>
<td>c) describe how pt will look and interact (swelling / dressings /lacerations/LOC/cannot talk, etc.)</td>
</tr>
<tr>
<td>d) give &quot;Survival Guide&quot; &amp; restaurant/hospital/area information</td>
</tr>
<tr>
<td>7. Outline availability of Pastoral Care &amp; Social Work, and their routine involvement in most pts' care.</td>
</tr>
<tr>
<td>8. If wait expected to be &gt;15 minutes, consider calling another FM, Pastoral Care or Social Worker. Inform family you will update them after 15 minutes.</td>
</tr>
<tr>
<td>9. Escort to bedside and introduce to bedside nurse. Reiterate what family has been told.</td>
</tr>
</tbody>
</table>

3. Families consistently rate the need for honest answers and the need to know the possible outcome *highest of all needs.*

4. Families may not process information effectively in a crisis situation.

5. To talk to the physician is a highly rated need.

6d) Family may find it helpful to refer to written material *after* initial visit, when they can absorb more information.

9. Family may need support to actually approach bedside initially. Promotes continuity and consistency.
APPENDIX III(a)

NURSING CARE STANDARDS MANUAL

PROCEDURE

Initial introduction and orientation of family to ICU

Bedside Nurse

1. Observe reaction to their family member.

2. Instruct FM as to what they can do safely, eg. touch, speak to pt.

3. Offer more explanations of environment and patient's condition; DO NOT emphasize lab/hemodynamic values as such, rather give information in non-technical terms. Tailor to type/number of questions.

4. Facilitate visit:
   * lower bed/siderails; arrange equipment
   * bring chair to bedside
   * make environment as calm as possible
   * respond to/explain alarms promptly
   * withdraw to allow privacy, within limits of safety

5. Reassure you or another nurse will always be observing pt.

1. Individual responses vary.

2. Families need guidance, since they may feel they are disruptive to pt's care.

3. The need for honest answers is rated highly by families.

4. Meets FM's need to be with pt.

5. Meets need to know their relative is receiving best possible care.
6. Collect the following information: who is next of kin (if not them); who will act as spokesperson (if not them); any other FMs who would be expected to visit.

7. Ask if they can give any further information about pt, using Nursing Admission Assessment as guideline.

8. Initiate referral to Social Work or Pastoral Care if FM's emotional/psychosocial needs cannot be met by bedside nurse, while conveying acceptance of behaviour (eg. crying, silence).

9. Explain visiting guidelines: can be flexible; anytime, except preferably not at shift change; 2 at a time; close FMs, as on "list".

10. Encourage and give permission to leave to eat, sleep and take care of themself.

11. Add unit telephone number, physician information, other names as appropriate.

12. Review use of call system at front doors.

DOCUMENTATION: Document any information given, and consults initiated, in Nurses' Notes. Document any patient information received on Nursing Admission Assessment Form.
APPENDIX III(a)
NURSING CARE STANDARDS MANUAL
PROCEDURE

Initial introduction and orientation of family to ICU


APPROVAL: as part of research protocol: St. Paul's Ethics Committee for Human Experimentation

REVIEW DATE: N/A

GROUP/PERSONS CONSULTED: Family Care Quality Improvement Team:

Martha Mackay, Critical Care Clinician                         Gayle Shaw, Unit Coordinator
Tara McDonnell, Social Work                                   Pauline Shtuka, Pastoral Care
Shelley McLean, Staff Nurse, ICU                              Colleen Smith, Assistant Head Nurse, ICU
Wendy Scott, Patient Care Manager, ICU                       Carol Volpatti, Assistant Head Nurse, ICU

AUTHOR: Family Care Quality Improvement Team
TITLE: Protocol for ongoing care and support of families of ICU patients

RELATED STANDARDS: Procedure for initial introduction and orientation of family members of ICU patients

PATIENT OUTCOMES: Families' needs for support, information, assurance, comfort and proximity will be met

BACKGROUND INFORMATION: Critical illness usually causes a crisis situation for the family of the patient (pt). Research has shown that families of critically ill pts have common needs. The health care team can support families by assisting them to meet these predictable needs. For the purpose of this standard, family is defined as any person the patient considers a source of love and support. This may include pets for some patients.

ASSESSMENT
Initial and Ongoing:
1. Assess FM's emotional/psychological response to patient and environment, eg. anger, silence, tearfulness, restlessness, acceptance, anxiety, etc. (need for support and assurance).
2. Assess FM's knowledge and understanding of patient's situation and critical care environment (need for information).
3. Assess FM's need and desire for involvement in patient's physical and/or psychological care (need for proximity).
4. Assess cultural/personal beliefs related to health and illness (need for support).
5. Assess general physical response to the situation, eg. eating and sleeping patterns, ADL, etc. (need for comfort).

INTERVENTIONS
1.1 Acknowledge and validate FM's response(s) in non-judgemental manner, using verbal and non-verbal communication.
APPENDIX III(b)
NURSING CARE STANDARDS MANUAL PROTOCOL
Ongoing care and support of families of ICU patients

1.2 If unable to meet FM's needs, refer to social worker or pastoral care worker, via Assistant Head Nurse/Charge Nurse (streamlines process).

1.3 Be aware of own beliefs and reactions to FM's responses.

2.1 If FM has a basic understanding of the patient's condition and the environment, reinforce information.

2.2 Clarify any inaccuracies or misconceptions about FM's involvement in pt.'s care, disease process and treatments, or equipment.

2.3 Provide opportunity for FM to meet the health care team a minimum of once daily. Each shift, ascertain family's need for a meeting, and facilitate setting of mutually-agreeable time. It is strongly recommended that all routine family information sessions with the health care team occur between 1300 and 1700 hours every day.

2.4 During morning patient rounds, confirm time, format, and participants for meeting.

2.5 Prior to meeting, review goals of meeting with participating staff.

2.6 Attend the family meeting. Provide clarification and support during and after meeting, as necessary, and check FM's understanding of discussion and conclusions.

3.1 Continue to facilitate visit (equipment, chairs, etc.) to allow proximity. Encourage FM to talk to and touch the patient; explain that human touch is therapeutic, and that even unconscious patients may be able to hear and sense touch.

3.2 Encourage FM to provide any physical care they want to, and which the nurse can reasonably teach them to carry out safely. Most family members are able to assist with some components of bathing and positioning, and may find this very rewarding. Other activities (e.g. oral suctioning, feeding, assisting with bedpans and linen changes) may also be appropriate for the FM, and should be assessed on an individual basis. Always supervise the physical care the FM gives, while allowing as much privacy as possible.
3.3 Critically evaluate the need for asking the FM to leave for treatments and procedures. They may be able to provide much needed psychological support, making the procedure easier for the patient and the health care providers. The nurse must be the final judge of whether a FM remains during procedures. If FM must leave, give an estimate of when they may return.

4.1 Provide culturally appropriate care to the patient and FM, based on their stated cultural spiritual and personal beliefs about health, illness, and dying (if appropriate). Social Work and/or Pastoral Care can assist in this care and act as a liaison with the FM's cultural or spiritual community, if needed.

5.1 Validate observations of fatigue or poor self care with FM. Remind FM of need to maintain own health, especially when suggesting FM needs a break from the bedside or from the hospital setting altogether. Consult Social Work if above interventions not effective.

PATIENT/FAMILY EDUCATION:
As above.

DOCUMENTATION:
Record all information given to the FM, either by an the individual nurse, or in team meetings, in the Nurses' Notes. Record FM's response to information and any other interventions in Nurses' Notes. AHN/charge nurse record date and result of family meetings on AHN Kardex.

REFERENCES:


APPENDIX III(b)
NURSING CARE STANDARDS MANUAL

PROTOCOL

Ongoing care and support of families of ICU patients

APPROVAL: as part of research protocol: St. Paul's Ethics Committee for Human Experimentation

REVIEW: N/A

GROUP/PERSONS CONSULTED: ICU Family Care Team:
Martha Mackay, Critical Care Clinician
Tara M'Donnell, Social Work
Shelley M'Lean, Staff Nurse, ICU
Wendy Scott, Patient Care Manager, ICU

Gayle Shaw, Unit Coordinator
Pauline Shtuka, Pastoral Care
Colleen Smith, Assistant Head Nurse, ICU
Carol Volpatti, Assistant Head Nurse, ICU

AUTHOR: ICU Family Care Team
APPENDIX IV
Evaluation of a Nursing Intervention to Meet the Needs
of Families of Critically Ill Patients

Informed Consent

Investigator: Martha Mackay, BSN, CNCC(C), RN
Telephone: xxx-xxxx
Faculty Advisor: Carol Jillings, PhD, RN
Telephone: xxx-xxxx

You have been asked to participate in a research study because you are a family member of a patient in the Intensive Care Unit. The study is being conducted as part of the investigator's thesis for a Master's degree in Nursing. Participation in this study is entirely voluntary. You may decide not to participate, or you may withdraw from the study at any time, without any risk of affecting your treatment by the health care staff, or the care your relative receives. You may also refuse to answer any of the questions without affecting your treatment by the health care staff, or the medical and/or nursing care your relative receives.

PURPOSE
The aim of this research study is to evaluate a new approach used by nurses to meet the needs of family members of critically ill patients. This new approach will include ways to introduce family members to the Intensive Care Unit, as well as ways to give you reports of your relative's condition, and to make your visit with your family member satisfying to you. Individuals with a relative in the Intensive Care Unit are invited to participate in the study.

PROCEDURES
If you consent to participate in the study, the procedures will be as follows. Depending on when you are enrolled in the study, you will receive either the "usual" approach to caring for family members, or the new approach, as described above. This will depend entirely on when, in the course of the research study, you participate. Either way, you will be asked to answer questions related to your needs while your relative has been a patient in the Intensive Care Unit, and how well those needs have been met. The questionnaire will take approximately 30 minutes to complete. You will not receive any money for participating in the study.
RISKS AND BENEFITS
The only risk in participating is of some possible discomfort in answering questions about your needs. There is a possibility that if you receive the new approach to caring for families, you may experience improved need satisfaction. You may not benefit directly from participation in the study, but it may be of help to other families of critically ill patients.

CONFIDENTIALITY
All information you provide will be kept confidential. This will be done by using a code number on the questionnaire. Only the researcher will have access to the list of names and codes, and the list will be destroyed after completion of the study. You will not be identified at any time by your name or initials, nor will these be used to identify you in any research report.

I have read the above information, and I have had an opportunity to ask questions to help me understand what my participation would involve. I freely consent to participate in the study and acknowledge receipt of a copy of the consent form.

________________________  ________________
Signature of Participant  Date

________________________  ________________
Signature of Witness  Date

If you would like a summary of the findings of this study after it is completed, please indicate below.

___ Yes, I would like to receive a summary of the study findings.

Address to send summary to: