A mixed methods study on the needs of Korean families in the intensive care unit

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KEY WORDS

Mixed methods study, intensive care unit, Korean families

ABSTRACT

Objectives

The aim of this study was to achieve an understanding of the needs and experiences of Korean families in the intensive care unit (ICU).

Design

The study adopted a triangulation mixed methods design. A survey using Critical Care Family Needs Inventory was conducted to measure the needs of ICU family members. In-depth individual interviews were also carried out focusing on the difficulties experienced by families and their need to cope with critical situations. Statistical results and qualitative themes were compared and integrated for data analysis.

Participants

Participants comprised 85 family members who were identified as the main caregivers of ICU patients.

Results

The quantitative result indicated that ICU Korean families needed assurance most, followed by information, proximity, comfort, and support. The main themes derived from the qualitative analysis demonstrated in what ways these needs were met or not met by hospital and family systems.

Conclusions and implications

Findings indicate that open communication with health care professionals and close contact with patients are crucial for meeting the priority needs of ICU families. Family functions also affect the experiences of family caregivers. The results suggest that an educational program for nurses and a family support group program for ICU families would be beneficial.

INTRODUCTION

The admission of a family member into the intensive care unit (ICU) is one of the most stressful events in any family. The existing literature on the needs of ICU families is generally divided into quantitative and qualitative studies in terms of methodology. Quantitative studies have extensively used the Critical Care Family Needs Inventory (CCFNI), an instrument developed by Molter and Leske to measure the needs of ICU families (Molter and Leske 2001; Leske 1991; Leske 1984; Molter 1979). This 46 item, 4 point Likert type questionnaire is subdivided into five general needs categories: assurance, information, proximity, support, and comfort. A series of quantitative studies using the CCFNI (Azoulay et al 2001; Mendonca and Warren 1998; Price et al 1991; Norris and Grove 1986; Daley 1984) have consistently reported that assurance, information, and proximity needs rank above comfort and support needs.

Despite the usefulness of the CCFNI, the instrument has been criticised because its prescriptive nature inhibits families from expressing needs not included in the list. In addition, the CCFIN is constructed from the perspective of nurses which necessarily differs from the perspective of families regarding the impact of the crisis event (Forrester et al 1990) and the intensity of emotional responses (Titler et al 1991). Concerns about using a structured instrument suggested that qualitative approaches to families' experiences were needed.

Qualitative studies of ICU families have been attempted by a few researchers within the last two decades. Walters (1995) explored the experiences of 15 ICU family members with a hermeneutic approach, identifying two themes: the need of the families to 'be with' the patient in a physical and emotional sense and the need for actually 'seeing' the patient. Carr and Fogarty (1999) used an ethnographic method in an attempt to understand the vigilance of families at the bedside. They revealed several themes including: commitment to care, resilience, emotional upheaval, dynamic nexus, and transition. Lam and Beaulieu (2004) focused on 13 family members of ICU patients through observation and interviews. They explained 'bedside phenomenon', which offered insight into families' desire to ensure their loved ones were receiving the best care possible and to maintain a connection with the patient. Hughes et al (2005) in a grounded theory study interviewed eight relatives to investigate their overall experiences of the ICU environment. The main themes that emerged were concerned with information and communication.

These qualitative studies demonstrated the texture and complexity of the ICU families' experiences. However the studies did not explore how the needs of ICU families were met or unmet while interacting with health professionals and other family members. In addition, their sample included only a small number of participants from diverse backgrounds. Although the sample size is of secondary importance in qualitative in-depth analysis, caution is required in interpreting these results based on the small number of heterogeneous participants. Taken together, the existing studies of ICU families used either superficial quantitative data from surveys or narrow qualitative analyses of a few participants which resulted in limitations in a comprehensive understanding of ICU families.

A mixed methods study is an approach that collects, analyses, and integrates quantitative and qualitative data in a single study in order to resolve research problems based on the epistemology of pragmatism (Morse 2005; Creswell et al 2004). When used in combination, both quantitative and qualitative data yield a more complete analysis and complement each other. Such a design strengthens the reliability and validity of the research through corroboration and mutual assurance (Green 1994).

Burr (1998), for example, used a mixed methods study to triangulated quantitative and qualitative methods for exploring the needs of Australian ICU families. In Burr's study, a sample of 105 family members completed the CCFNI while 26 other family members participated in an interview. The results supported findings from other studies using the CCFNI on the priority needs of information about and access to the patient. Personal needs were accorded low priority, being displaced by strong patient related needs. It is important to note that the qualitative interview brought out the elements the quantitative inventory missed.

The present study, using a mixed method design, aimed to achieve an understanding of the needs and experiences of Korean ICU families. The main characteristic of 'Koreanness' can be described as familism (Yang 2002), which is defined as a unique social characteristic that highly emphasises family cohesion, interdependence, and kinship. Koreans are expected to sacrifice their individual needs for the sake of family interests (Jung and You 2001). Little is known about how Korean values of family affect the needs of Korean ICU families. Moreover, no mixed method study has examined Korean ICU families. Therefore it was timely and appropriate to investigate Korean ICU families using a mixed method design which would contribute to nursing knowledge and cultural competence.

METHODS

Research Setting

The study was conducted in nine medical ICUs at nine general hospitals in Korea during the autumn and winter of 2005. One hospital had 2,064 beds; the others had between 400 and 650 beds. One ICU had 100 beds, three ICUs had 50 to 70 beds and the remainder had between 30 and 50 beds. All the ICUs in the study had strict visitation regulations that followed a three visitor policy, twice a day, from 30 to 60 minutes on each occasion.

Triangulation Mixed Methods Design

The study adopted a triangulation mixed methods design with more emphasis on the qualitative research process (see Creswell 2003; Tashakkori and Teddie 1998 for types of mixed methods design). Triangulation mixed methods design is one of the mixed methods designs in which quantitative and qualitative procedures are conducted separately from each other in order to maintain the independence of data analysis. Both quantitative and qualitative findings are subsequently integrated into the final results. The qualitative research process was dominant in the current study in order to give voice to Korean ICU families who have had no voice in the existing literature and to explore cultural uniqueness in the Korean ICU context.

Quantitative procedure

A survey using the CCFNI was conducted to measure the needs of ICU family members. The content validity, construct validity, and reliability of the CCFNI have previously been established (Leske 1991; Macey and Bouman 1991). Construct validity was addressed through factor loading; reliability was reported as 0.96 (Leske 1991). The CCFNI was translated from English to Korean. A back translation method was used to verify translation validity.

The researcher recruited 85 participants to complete the CCFNI. The criteria for recruitment stated that participants should 1) be a family member who was recognised as the main caregiver and 2) be a person staying in the ICF family waiting room in order to visit their family member more than once a day. The appropriate ethical aspects of the study were addressed to ensure participants' rights were acknowledge and respected. The Korea Research Foundation granted ethics approval. Descriptive statistics such as means, standard deviations and reliability coefficients were used to examine the relative importance of ICU family needs.

Qualitative procedure

In-depth individual interviews were conducted with 25 of the 85 ICU family members. The researcher asked all 85 participants if they would consent to an interview; 25 participants voluntarily agreed to the interview. The interview questions included, but were not limited to, the needs of ICU families. The semi-structured interview focused on the process of hospitalisation in the ICU, the difficulties experienced by the families, and the needs for coping with the critical situation. Each interview averaged approximately 60 minutes. The interviews were recorded on audiocassettes and transcribed verbatim.

Qualitative data were examined through two stages: a within-case analysis and a cross-case analysis, according to the theme analysis method. A typical format was to first provide a detailed description of each case and themes within the case, called a within-case analysis, followed by a thematic analysis across the cases, called a cross-case analysis (Creswell 1998 p.63). To achieve veracity, transferability, dependability, and confirmability of the qualitative procedure, negative case analysis was used which involves searching for elements of the data that do not support or appear to contradict the emerging themes from the data analysis. The researcher revised the initial hypotheses in light of disconfirming evidence when conducting negative case analysis (Creswell 1998 p.202). Colleague researchers were asked to provide academic feedback about the analysis. Some of the participants were also asked to review part of the analysis results for checking.

Integration

The triangulation mixed methods design integrates the results from the quantitative and qualitative procedure. A comparative analysis was conducted to identify the similarities and differences between main themes from qualitative data and the descriptive statistics from quantitative data. The researcher, using the constructs of the CCFNI to position and interpret the qualitative interviews, pinpointed the needs of ICU families among various themes that emerged from the qualitative data. At the same time, discrepant or additional needs beyond the CCFNI were also examined to avoid being confined to the predetermined categories.

Participants

Participants comprised 85 family members (55 women and 30 men) of ICU patients in Korean hospitals (see table 1). They varied in age between 21 and 70 years old, with more than 60 percent being between 31 and 50 years old. Fifty participants were children of the patient, 21 were spouses, five were siblings, four were parents, and five were other relatives. Of the patients, 61 were conscious, 22 were unconscious, and two were unidentified.

Of the 85 participants, 25 family members (15 women and 10 men) also participated in qualitative interviews; four of these participants were in their 20s, five were in their 30s, 10 were in their 40s, and six were in their 50s or older. Twelve were children of the patient, six were spouses, four were parents, two were siblings, and one was an aunt.

Table 1: Characteristics of participant family members and patients (n = 85)

Characteristics			n (%)
Participant	Gender	Male	30(35.3)
		Female	55(64.7)
	Age Range	21-30	19(22.4)
		31-40	22(25.9)
		41-50	29(34.1)
		More than 51	15(17.6)
	Education	Less than high school	15(17.6)
		High school graduate	40(47.1)
		College graduate	29(34.1)
		No answer	1(1.2)
	Relationships with the Patient	Children of the patient	50(58.8)
		Spouse	21(24.7)
		Other members (parents, siblings, relatives)	14(16.5)
Patient	Gender	Male	60(70.6)
		Female	25(29.4)
	Age Range	Less than 50	24(28.2)
		51-60	17(20.0)
		61-70	24(28.2)
		More than 71	20(23.5)
	Consciousness	Conscious	61(71.8)
		Unconscious	22(25.9)
		No answer	2(2.4)

FINDINGS

The present study used a triangulation mixed method design to explore what needs were important to Korean ICU families and how these needs were met or unmet. The quantitative result showed the highest need of the participants was assurance (M=3.67, SD=0.41). The other priority needs were: the need for information (M=3.49, SD=0.40), proximity (M=3.23, SD=0.50), comfort (M=2.93, SD=0.60), and support (M=2.63, SD=0.55). Reliability of the scale was measured using Cronbach's α = 0.95 as a whole and from 0.75 to 0.88 for the five subcategories. The quantitative result was complemented and verified by the main themes derived from the qualitative data.

Need for assurance: "Never get hopeful words"

Need for assurance is defined as a family's need to hope for a desired outcome, part of which is based on their confidence and trust in the health care system (Leske 1991). Assurance was ranked first in the needs categories and repeated most in the qualitative data. The ICU families expressed a desperate need to grasp a thread of hope while trusting the judgments and actions of health care professionals. However the qualitative interviews demonstrated that participants felt frustrated by health professionals' abstract and indirect explanations of patients' conditions. In particular, they were anxious in response to doctors' overly cautious prognoses. They regarded doctors as defensive or self-protective.

Doctors are very defensive. They never say hopeful words. They say only 'fifty-fifty.' Who can't say that? ... In Korea, doctors have wielded power from their gown for a long time. Now more and more patients and their families are calling them to account. That's why doctors don't say promising words. They keep saying 'It is always possible to take a bad turn.' I gave up expecting good news from doctors (husband).

Participants felt doctors asserted their authority with their exclusive knowledge about the patients' disease.

Doctors do not give us any clear answer. They keep saying, 'Let's just wait and see'... They use medical language. What do we know about those difficult words? Maybe it is about doctors' authority. It is everything (son).

Need for information: "Too busy to answer"

The need for information ranked second in families' needs and reflected information and knowledge seeking through involvement (Leske 1991). The participants expressed their need to have sufficient and realistic information about their ill family member. They hoped to obtain this information from doctors and nurses, but found it difficult to access these professionals. The families usually waited at the ICU front door for doctors and nurses on their rounds, hoping to have a chance to ask questions about their ill family member. However the health care professionals seemed too busy to explain the condition of the patient to the families or seemed reluctant to do so. One mother claimed:

Although I have a question, the doctor in charge is not around. The ICU nurses don't give me clear answers... I feel so anxious because they do not explain in detail. I want to know specifically how my son is treated and what effects are expected in what way. I want to know how to cope with it. I am the caregiver! I know they are busy. But it is almost impossible to communicate with them. What I need most is for them to explain to me precisely how my son is doing and tell me frequently how his condition is changing. What else do I need (mother)?

Need for proximity: "Just cannot leave"

Families' need for proximity, ranked third; they needed to be near or close to the ill person physically and emotionally (Leske 1991). All the ICUs in the study had rigid visiting regulations. The participants missed work, school and family duties to spend most of their time in the ICU family waiting room in order to see the patient at each visiting time. They could not leave for fear that something would happen to the patient. One son confessed:

We are not the only family. All other families of ICU patients are sleeping curled up on the couch in this waiting room. I know we are not supposed to spend the night here. It is the hospital policy. But, you know, *family just cannot leave the sick person alone in ICU. We are eager to be here. It is very uncomfortable, but we want to be close to the patient (son).*

Need for comfort and need for support: "Doesn't matter"

The ICU families deferred their own personal needs such as comfort and support. Comfort is related to the hospital environments including convenient bathrooms, comfortable furniture, nearby telephone and good food (Leske 1991). The low ranking of the need for comfort meant either that it was unimportant or that the hospital was comfortable enough. According to the qualitative data, the participants did not expect much from the hospital in terms of convenience facilities for ICU families. They accepted that ICU families would have to endure inconveniences and discomforts. One wife explained:

Inconvenience doesn't matter. I came here because my husband is critically ill. There is nothing I can do except wait. I am just waiting although my husband is hovering between life and death! My inconvenience is nothing compared to the pain of the sick person. It is the patient on the bed who is suffering most (wife).

Family members need support to express feelings and emotions, handle financial and family problems, and feel concern for themselves (Leske 1991). Need for personal support however, was their lowest priority in this study. Similar to the need for comfort, the qualitative interviews revealed that the participants felt it inappropriate to demand support for themselves instead of for their family member. Although the participants did not express their need for support, they often mentioned how helpful the consolation of their relatives and friends was.

Needs to be met or unmet by the family: "Family is the best support"

A mixed methods research design adds scope and breadth to a study (Johnstone 2004). Obtaining complementary information is advantageous which can be easily missed or overlooked when only one method is used. The current study focused on how the needs of participants were met through family interactions using a qualitative interview, which cannot be captured by a quantitative survey.

While taking care of their critically ill family members, participants expected other family members to help them emotionally and practically. When these expectations were met, it resulted in increased communication, closeness and trust in the family.

Above all, family is the best support. We have talked a lot about how my father has lived. We come to know how each one feels about him. It seems all the family members are joining to hold up my father…My brother-in-law was a stranger to me. Going through this hardship together, I feel he is one of my family members. It is quite a fresh feeling. I was troubled in paying the medical bill for father. My brother-in-law supported a lot. Now I feel thankful to him and, at the same time, sorry for placing a financial burden on him (son).

On the other hand, if appropriate family support was not provided to the caregiver, the participants blamed other family members. They expressed their disappointment with, resentment toward and conflict with other family members.

My family-in-law rebukes me for my husbands' sickness. They say I should have stopped him from drinking…They say they feel pity for me, but it is nothing but lip service! I am staying in the family waiting room all day. But what do they really do? It is all talk! He is their own brother. How great it would be if they take care of him even just once (wife)?

DISCUSSION

Korean ICU families have rarely been the subjects of international nursing research. This study highlighted the value of a mixed method research design by examining the priority of needs for Korean ICU families and by exploring the ways these needs were met or unmet by hospital and family systems. The quantitative results of this study, by ranking assurance, information, and proximity as the highest priority above family members own needs, such as comfort and support, are consistent with the findings from other studies using the CCFNI (Azoulay et al 2001; Freichels 1991; Price et al 1991; Norris and Grove 1986; Daley 1984). More importantly, integrating qualitative analysis with the quantitative results brought out other needs of Korean ICU families.

Korean ICU families expressed a strong wish to be assured and informed by doctors and nurses. However it was difficult for families to access doctors and nurses and to understand the medical and nursing language they used and their ambiguous, diffident explanations about patients' conditions. The ICU families felt frustrated, helpless, and anxious, which might bring out a trust issue with health professionals. The families did not unrealistically expect doctors and nurses to bring a dying person back to life; the families just wanted to be informed and assured that the patient was being treated properly. The results suggest that one of the health care professionals' obligations was "to meet the informational needs of patients and their families by disclosing all available information in a frank, direct, and empathetic way" (Azoulay et al 2001 p.138).

The ICU families wanted to be close to their family member and to maintain contact. They seemed to accept discomfort as a part of taking care of their ill member. Personal need for support was their lowest priority and was regarded as inappropriate for Korean ICU families. This is not to say that ICU families did not need comfort or support, simply that they believed the patient's needs should take precedence over their personal needs.

Using a mixed methods design, the current study uncovered need-related family dynamics not reflected by quantitative inventory. The participants expected other family members to join 'the ICU family' by visiting the patient, supporting caregivers and offering practical help. It is assumed that Korean familism plays a role in the expectations of the participants. If these expectations were fulfilled, the cohesion of the family system was strengthened; if not, it resulted in argument, blame, or avoidance within the family. The existing literature commonly focused on the interactions between ICU families and nurses while overlooking the dynamics among family members. However the present study demonstrated how family function was a key to meeting the needs of Korean ICU families. Future studies should investigate how the role of family affects the experiences of ICU hospitalisation in different cultures.

The study used only descriptive statistics to analyse quantitative data from ICU families. A larger sample is suggested for inferential statistical analysis which would be more helpful to confirm results from the mixed methods study. The study reflects the socio-cultural system of Korea, but the results need not be limited to Korea. The design can also be used in other contexts where the voices of ICU families have not yet been heard.

IMPLICATIONS AND RECOMMENDATIONS

Nurses need to be prepared through continuing education programs to build and sustain collaborative partnerships with family members (Cioffi 2006). The current study's results suggest developing an educational program for ICU nurses would be beneficial. The program should highlight the priority needs of ICU families, include communication skills to effectively interact with the families and improve cultural competence levels in the nursing profession. In addition, considering the impact of the ICU experience on families (Yang 2007), it is recommended that hospitals offer family support group programs. The programs can be developed cooperatively with various professionals such as nurses, family therapists, social workers and others, such as ministers of religion. The program could be both informative, where families can learn what to expect, and supportive, where families can be empowered. Undoubtedly, ICU hospitalisation is a stressful event for the whole family; however, the experience could have positive meanings through the efforts of the nursing profession.

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