

Original Article

The Needs of Malaysian Family Members of Critically Ill Patients Treated in Intensive Care Unit, Hospital Universiti Sains Malaysia

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ABSTRACT

Background: The needs of intensive care patient's family members are often neglected. Many healthcare practitioners do not realize that meeting the family needs in the intensive care settings actually may improve outcome for their patients and enable the family members to cope and deal with the patient's hospitalization period effectively. With this in mind, the present study aimed to address the needs of Malaysian family members of intensive care unit patients. **Methods:** This cross-sectional survey was conducted among family members of Intensive Care Unit of Hospital Universiti Sains Malaysia, Malaysia. A total of 60 family members were recruited using a convenience sampling manner. A Malay validated Critical Care Family Needs Inventory was used to identify the family needs among the respondents. Descriptive statistics as well as mean comparison analyses were employed to achieve the study. **Results:** The findings showed that family members ranked Assurance items as the most important needs. In terms of subscales scores, Assurance and Information evidenced higher mean scores compared to other dimensions. All the family need dimensions had positive and significant associations with one another. The highest correlation was noted among Comfort – Support pair, $r(58) = 0.73$, $p < 0.001$. No significant differences in the mean values found across gender, history of admission and types of relationships. In contrast, significant mean difference was observed across level of education. **Conclusion:** Identifying the needs of family members in the intensive care unit is imperative as it raises awareness and contributes knowledge in terms of family needs to healthcare providers, policy makers, medical social workers and general public.

Keywords: Critical care, family members, Intensive Care Unit, needs, patient

INTRODUCTION

The admission of family member or relative in Intensive Care Unit (ICU) is considered one of the most unexpected and

distressing moment. According to Lee and Lau (1), the admission to the ICU is a crisis not only for the patient but also to their family members. Even a planned admission to the ICU, such as elective coronary bypass surgery, can be very stressful to the family members (2). Many patient's family members expressed the feelings of helplessness and also overstrain as they felt not competent enough to provide a good level of support to their respective family members (3). Consequently, the feelings of helplessness and overstrain are carried over to their normal routine activities and thus, greatly affect their activities.

In many ICU settings, the healthcare providers constantly monitor and give importance to the patients but fails to consider the needs of the patient's family members and / or caregivers. This leads to dissatisfaction among family members as they feel that the healthcare team often neglect their concern and queries towards patient's prognosis and health status. Early in 1979, Molter (4) proposed that working staffs from intensive care unit rather concentrate on the needs of ICU patients and neglect the family member needs. It was understood that the need of family members are only recognized when they expressed inappropriate coping styles at the bedside. In some instances, ICU staff tend to realize the needs of the family members only when the family members directly seeks assistance in coping (4).

In recent years, Kotkamp-Mothes et al. (3) stated that the patient's family members needs are "frequently neglected" by the healthcare personnel since their priorities and primary focus were only patient's needs. Furthermore, Verhaeghe et al. (5) addressed that the healthcare teams are often wrongly assessed the needs of family members. Adding to this, Delva et al. (6) raised the concern that healthcare providers also do not give importance to the communication with family members such as organizing a family conference as a mean to discuss the patient welfare.

Family needs were formally investigated and ranked by Molter in year 1979 via an exploratory descriptive research design.

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Subsequently, many scholars investigated the family needs among patient's family members from various countries. For examples, Lee and Lau (1) assessed the family needs in Hong Kong while Takman and Severinsson (7) performed the study in Norway and Sweden while Chatzaki et al. (8) replicated the family needs research among suburban and rural Greek population. Studies pertaining to family needs were also conducted at Middle East regions such as Saudi Arabia (9) and Jordan (10, 11).

Furthermore, many researchers around the world and West in particular, constantly investigating the needs among ICU-treated patient's family members (12-19). As outcomes, the results generated from each study seemed to be unique and differ from each other due to socio-economic background, cultural and religion of each country. Although a significant number of studies were conducted outside of Malaysia, this topic receives insufficient attention and interest from Malaysian researchers.

Skimming through the literatures, only few studies were conducted in Malaysian context. Noteworthy example is the study conducted by Faridah (20) which looked at the importance of communication aspect between family members and healthcare providers. Reflecting the family needs concept introduced by Molter (4) and Leske (21), communication alone is not adequate in covering all the aspects of family needs. In addition, the results that obtained from previous Western studies may not be suitable to apply within Malaysian context due to the cultural, environmental and socio-demographic differences.

Conducting local studies on family needs among Malaysian populations would provide a more reliable, valid, and accurate findings while offering a better understanding on this topic of interest. In fact, studies in cross-cultural psychology and sociology attest to this need (22). By conducting researches on family needs among Malaysians, it will relieve the immediate feeling of crisis among family members and most importantly, it will help to restore the focus of care to the patients. A significant number of studies (5, 23-25) have convincingly reported that better outcomes for both patients and the family members may be visible if the needs of patient's family members are addressed and fulfilled.

As a remedy to address this gap and need, this study aimed to assess the needs of patients' family members (assurance, information, proximity, comfort and support - AIPCS) in ICU of Hospital Universiti Sains Malaysia (HUSM), Malaysia. In this study, the term 'Assurance' was operationalized as the necessity for hope in the desired results and 'Information' was referred as the necessity for the family members to obtain real information regarding the status and progress of their family members during the treatment. Meanwhile, 'Proximity' was operationalized as the necessity for the family members to contact and remain close with their family members throughout the ICU treatment. 'Comfort', on the other hand, was referred as the personal and comfort that needed by the family members and lastly, the term 'Support' was used to reflect the resources and support systems

that the family members are getting during the ICU treatment of their family members. Besides aimed to assess the needs of patients' family members, this study also compared and identified the differences in the perceptions on subscale needs (AIPCS) among respondents according to demographic categories.

MATERIALS AND METHODS

Study design and respondents

This study utilized a cross-sectional research design with an aid of a self-administered questionnaire. The reference population of this study was family members of ICU-treated patients in Malaysian hospitals. For that purpose, the sample of this study comprised of family members of ICU-treated patients in HUSM, Kelantan, Malaysia. A total of 60 patient's family members participated voluntarily in this study.

A list of selection criteria was predetermined prior to the recruitment of the respondents in this study. Most importantly, the study only recruited family members of patient's admitted more than 72 hours (3 days) in ICU, HUSM. Recruiting family members of patients with acute admission (1 – 2 days) may be inappropriate as the family members are emotionally disturbed and may not be ready to participate in research. Since it is difficult to recruit the respondents in probability manner, the researchers decided to employ convenience sampling technique which may ease the recruitment processes. The ethical approval was permitted by the Human Ethical Committee of Universiti Sains Malaysia [Reference: USM/JEPeM/14080298] and the researcher obtained verbal as well as signed consents from the research respondents prior to their involvement.

Assessment measures

Socio-demographic information

This part collected information on socio-demography of the patient's family members such as gender, age, educational level and relationship status with the patient. Apart from this, information regarding history of previous admission of same or any other family members into ICU was also requested from the respondents.

Psychometric instrument

For the purpose of families' need assessment, the present study utilized Critical Care Family Needs Inventory (CCFNI) which was authored by Molter (1979). The CCFNI is a 45-item inventory which measures the needs of family members and the extent to which they are satisfied. This instrument comprised of five domains: assurance, information, proximity, comfort and support (AIPCS).

CCFNI is a highly validated research tool and largely known for its promising psychometric properties with excellent internal consistency values (8, 26). CCFNI receives large recognition from many researchers as it is one of the commonly used tools in addressing the needs of patient's family members and caregivers. This inventory largely acknowledged for its usability

and a number of cross-cultural study actually adapted and modified this CCFNI to suit according to their cultural and language background (1, 7, 9, 27).

For the purpose of the present study, a Malay validated CCFNI (henceforth, CCFNI-M) was administered (28). After a series of validation protocols and factor analyses, only 42 items were included in CCFNI-M and the rest of the items were removed. The criteria include: (a) minimum factor loading of 0.30, (b) minimal factorial complexity (multiple loading), (c) the internal consistency value of the items corresponding to the overall scale and (d) content of the items (28). The internal consistency of the CCFNI-M seemed to be excellent ($\alpha = 0.93$) with Cronbach's alpha values of the five domains within CCFNI-M ranged between 0.72 and 0.81. These values indicate that the instrument is reliable in assessing the families' need dimensions (29, 30).

The items in CCFNI-M were mixed and listed randomly. All the items in CCFNI-M were answered using a Likert scale format ranging from 1 until 4, with 1 being not important and 4 – very important. There was no negative item in this scale which means the higher scores reflect the higher level of that particular need among respondents.

Statistical analyses

The responses from collected questionnaires were compiled and entered into IBM Statistical Package of Social Sciences (SPSS) version 22.0 software for the purpose of analyses. Descriptive as well as inferential analyses were employed to actualize the aim of this study. The descriptive analysis was used to rank the family needs according to the descending order (from most important to less important). The ranking output was based on the mean value of each item in CCFNI-M. Meanwhile, the second line of analysis examined the correlations among CCFNI-M dimensions. Finally, mean comparison analyses viz. Independent t-tests as well as one-way ANOVA; were employed to identify significant mean differences across socio-demographic classes of the research respondents.

RESULTS

Socio-demographic profiles

The mean age of 60 respondents of this study was 35.57 years old ($SD = 11.53$). Out of 60 respondents, majority were females ($n = 39$). Majority of the respondents were educated in which 45.0% of the respondents had bachelor degree and 38.3% had completed their higher secondary level education. With regards to respondent-patient relationships, majority of the respondents were adult children (51.7%), followed by parents (21.7%) and spouses (18.3%). Majority of the respondents (65.0%) of the family members claimed that there have no previous exposure of dealing with ICU admission as this was the first time their family members admitted into ICU while 35.0% of the respondents agreed that there have previously encountered with ICU admission of their other family member.

Ranking of needs

With reference to the mean value of each items in CCFNI-M, items were listed according to the descending order (Table 1). The mean values (M) of the CCFNI-M items ranged between 3.85 and 2.70. As depicted by Table 1, item 17 (to be assured that the best care possible is being given to the patient) which belongs to Assurance dimension of CCFNI receives highest score with $M = 3.85$, $SD = 0.44$ followed by item 40 (to be called at home changes in the patient's condition) with $M = 3.80$, $SD = 0.40$ and item 1 (to know the expected outcome) at third placing with $M = 3.78$, $SD = 0.45$. Interestingly the top seven items from the respondents belong to Assurance dimension followed by 2 items belonging to Information dimension. The items perceived as least important items among the patient's family members were item 20 (to have comfortable furniture in the waiting room) with score $M = 2.73$, $SD = 0.97$ ranked the second lowest which belong to Comfort dimension and the lowest was item 30 (to feel it is alright to cry when I want to) with score $M = 2.70$, $SD = 0.89$ belongs to Support domain.

Descriptive profiles of CCFNI-M dimensions

With reference to Table 2, the mean values of CCFNI-M dimensions ranged from 3.01 to 3.69. Assurance evidenced the highest mean value ($M = 3.69$, $SD = 0.34$) followed by Information ($M = 3.59$, $SD = 0.37$). The least mean value was observed for Support with ($M = 3.01$, $SD = 0.58$).

Correlations between CCFNI-M dimensions and age

For the purpose of ascertaining the associations among the CCFNI-M dimensions, Pearson correlation tests were carried out. As expected, bivariate correlations among the CCFNI-M dimensions revealed significant and positive associations with each other (Table 3). The highest correlation value was noted in Support – Comfort pair ($r(58) = 0.73$, $p < 0.001$). This was followed by Information – Assurance pair with $r(58) = 0.69$, $p < 0.001$ and Support – Proximity pair ($r(58) = 0.64$, $p < 0.001$).

Family needs across gender and previous admission categories

The mean differences in CCFNI-M dimensions across demographic categories (gender and history of ICU admission) were ascertained using independent sample t-test. The findings showed that the t tests were non-significant for families' need across gender and history of admission categories (Table 4).

Family needs across educational status and relationships types

A factorial between groups analysis of variance (ANOVA) was used to compare the mean scores of CCFNI-M (AIPCS) among different types of relationships and educational levels of respondents. Based on the findings, there were no significant mean differences in family needs dimensions across four types of relationships. However, the mean score of Assurance ($F = 4.45$, $p = 0.07$), Comfort ($F = 3.43$, $p = 0.02$), and Information ($F = 2.92$, $p = 0.04$) were significantly differed among respondents with different educational levels (Table 5).

Table 1: Rank order of items identified by patient's family members.

Items	Dimension		Mean	±SD
17	Assurance	To be assured that the best care possible is being given to the patient.	3.85	0.44
40	Assurance	To be called at home about changes in the patient's condition	3.80	0.40
1	Assurance	To know the expected outcome.	3.78	0.45
41	Assurance	To receive information about the patient at least once a day.	3.75	0.44
5	Assurance	To have questions answered honestly	3.73	0.45
43	Assurance	To know specific facts concerning the patient's progress	3.72	0.49
35	Assurance	To have explanations given that are understandable	3.72	0.52
19	Information	To know exactly what is being done for the patient.	3.68	0.57
16	Information	To know how the patient is being treated medically.	3.68	0.50
4	Assurance	To have a specific person to call at the hospital when unable to visit.	3.67	0.60
25	Information	To talk about the possibility of the patient's death	3.65	0.55
42	Assurance	To feel that the hospital personnel care about the patient.	3.65	0.52
13	Information	To know why things were done for the patient.	3.65	0.55
3	Assurance	To talk to the doctor every day	3.65	0.55
45	Proximity	To have the waiting room near the patient.	3.57	0.70
38	Assurance	To help with the patient's physical care.	3.52	0.62
11	Information	To know which staff members could give what type of information	3.50	0.57
9	Support	To have directions as to what to do at the bedside	3.47	0.70
8	Proximity	To have good food available in the hospital.	3.47	0.72
15	Information	To know about the types of staff members taking care of the patient.	3.40	0.59
2	Assurance	To have explanations of the environment before going into the critical care unit.	3.38	0.61
21	Comfort	To feel accepted by the hospital staff.	3.33	0.71
7	Comfort	To talk about feelings about what has happened.	3.23	0.67
32	Proximity	To have a bathroom near the waiting room.	3.23	0.87
28	Support	To be assured it is alright to leave the hospital for awhile	3.18	0.77
26	Support	To have another person with me when visiting the critical care unit.	3.18	0.81
44	Proximity	To see the patient frequently.	3.17	0.83
12	Support	To have friends nearby for support	3.10	0.86
23	Proximity	To have a telephone near the waiting room	3.05	0.91
29	Proximity	To talk to the same nurse every day.	3.03	0.80
34	Support	To be told about someone to help with family problems	3.02	0.79
37	Support	To be told about chaplain services	3.00	0.74
6	Comfort	To have visiting hours changed for special conditions	3.00	0.80
18	Comfort	To have a place to be alone while in the hospital	2.98	0.89
10	Proximity	To visit at any time	2.95	0.95
27	Support	To have someone be concerned with my health.	2.92	0.91
24	Support	To have a pastor visit	2.92	0.77
33	Support	To be alone whenever I want	2.90	0.86
22	Support	To have someone to help with financial problems	2.90	0.93
31	Support	To be told about other people that could help with problems	2.88	0.98
20	Comfort	To have comfortable furniture in the waiting room.	2.73	0.97
30	Support	To feel it is alright to cry when I want to.	2.70	0.89

Table 2: Descriptive profiles of CCFNI-M domain.

Dimension	Minimum	Maximum	Mean	SD
Assurance	27.00	44.00	3.69	0.34
Information	15.00	48.00	3.59	0.37
Proximity	10.00	28.00	3.21	0.53
Comfort	17.00	24.00	3.16	0.49
Support	12.00	24.00	3.01	0.58

Table 3: Pearson correlation coefficients between CCFNI-M dimensions and age.

	Measures	(1)	(2)	(3)	(4)	(5)	(6)
(1)	Assurance	1.00	0.38*	0.48*	0.69*	0.44*	-0.36*
(2)	Proximity		1.00	0.46*	0.37*	0.64*	-0.11
(3)	Comfort			1.00	0.55*	0.73*	-0.03
(4)	Information				1.00	0.57*	-0.18
(5)	Support					1.00	0.05

Table 4: Family needs across gender and previous admission categories.

	Variable	Mean (SD)	Mean differences (95% CI)	t statistics ^a (df)	p-value
Gender	Assurance	38.95 (3.47)1 41.41 (3.55)2	-2.46 (-4.37, -0.55)	-2.56 (58)	0.40
	Proximity	22.00 (3.03)1 22.72 (4.08)2	-0.72 (-2.75, 1.31)	-0.71 (58)	0.84
	Comfort	18.14 (2.85)1 19.38 (2.91)2	-1.24 (-2.81, 0.32)	-1.59 (58)	0.14
	Information	21.00 (2.53)1 21.87 (2.00)2	-0.87 (-2.06, 0.32)	-1.47 (58)	0.28
	Support	34.67 (7.07)1 36.97 (6.93)2	-0.92 (-4.74, 2.91)	-0.48 (58)	0.63
	History of admission	Assurance	40.00 (4.04)3 40.85 (3.51)4	-2.46 (-4.37, -0.55)	-2.58 (58)
Proximity		22.33 (3.71)3 22.54 (3.80)4	-0.72 (1.02, -2.75)	-0.71 (58)	0.48
Comfort		18.19 (3.04)3 19.36 (2.81)4	-1.24 (0.78, -2.81)	-1.59 (58)	0.12
Information		21.14 (2.61)3 21.79 (1.98)4	-1.24 (0.78, -2.81)	-1.59 (58)	0.12
Support		35.57 (7.43)3 36.49 (6.85)4	-2.31 (-6.09, 1.47)	-1.22 (58)	0.23

^aIndependent sample t test, 1 male, 2 female, 3 yes, 4 no

Table 5: One-way ANOVA comparison of mean scores according to relationship and educational levels.

Socio-demographic factors	Variable	Mean Square	F	p-value
Relationship	Assurance	6.33	0.45	0.72
	Proximity	8.55	0.60	0.72
	Comfort	10.53	1.25	0.30
	Information	3.91	0.79	0.51
	Support	65.21	1.35	0.27
Educational level	Assurance	51.50	4.45	0.007*
	Proximity	4.90	0.34	0.80
	Comfort	26.10	3.43	0.02*
	Information	13.11	3.43	0.04*
	Support	32.48	0.65	0.59

*Significant p value (p < 0.05)

Due to this initial significant finding on Assurance, post hoc analyses (Scheffe's multiple comparison) were performed. In respect to Assurance dimension, it was found that the mean score for respondents with Bachelor degree ($M = 3.82$, $SD = 0.05$, $n = 27$) is significantly higher than from the respondents with lower secondary education ($M = 3.38$, $SD = 0.62$, $n = 6$). With regards to Comfort and Information dimensions, the post-hoc analyses revealed no significant mean difference although significant differences were detected at ANOVA analyses, suggesting false true results at ANOVA level.

DISCUSSION

The present study is one of the pioneer prospective study that attempted to address the family needs of family members of ICU-treated patients in Malaysia and the first to recognize family needs in relation to the demographic variables through the use of the Malay validated CCFNI. The descriptive findings (Table 1) revealed that family members addressed certain items as important and necessary. The 5 dimensions are: assurance (necessity for hope in the desired results), information (necessity for real information about the family member), proximity (necessity for contact and remaining near the family member), comfort (personal and comfort needs), and support (includes resources, support systems or structures) (31). Collectively, items from Assurance dimension received greater importance from the respondents compared to other forms of dimensions (Table 2). Following Assurance, Information was the second in the list with highest mean value. Similar pattern was evidenced in Saudi Arabia in which the Assurance and Information subscales were identified as the first two important domains in the CCFNI (9).

The present findings also in agreement with previous studies that have been conducted in Western and Asian countries whereby Assurance and Information found to be the most important needs for ICU-treated patients' family members (8,10,11,19,32). Furthermore, a systemic review of studies that conducted in the United States (6) between late 1970's and early 1990's indicated that Assurance and Information as the two primary elements in coping with the hospitalization of loved ones.

In addition, the present findings also in par with previous studies in which Assurance always received greater importance and recognition among patient's family members (15, 33). For example, a study conducted by Reynold and Prakinkit (33) in Thailand found that the mean score of Assurance ($M = 3.89$) was higher than other dimensions. However, study by Hinkle and Fitzpatrick (18) revealed Information as the most important dimension compared to other form of needs. Consistent with Reynold and Prakinkit's findings, the Comfort and Support remain as the least important dimensions in this study.

Among the ranked items, item "to be assured that the best care possible is being given to the patient" was perceived as the most essential need among the respondents. This Assurance perceived

as important aspect in promoting confidence, security and freedom from doubts about the treatment and healthcare system received by the patients. In addition, the Assurance especially 'best care' from professionals may develop confidence and trust among family members towards service provided by the medical personals. Furthermore, many studies pertaining family needs has proved that the need of reassurance of the health status such as prognosis of the patient as well as the assurance of best care has been recognized as the most vital family need at cross-cultural settings (8,10,11,34,35).

According to Leske (31), Assurance is one of the most important aspect needed by the family members. It is true enough that patient's family members may become naturally worried (33) and experienced wide ranges of emotional distress and being vulnerable upon admission of their loved one and therefore, all families require and warrant assurance for a realistic appraisal of the situation facing by them. According to Leske (26), assurance is an important component of family needs as it reduces uncertainty, reduces stress among family members and at the same time gives hopes of better outcome expectations.

With regards to CCFNI dimensions and age, only Assurance was negatively and significantly correlated with age. A study by Chatzaki et al. (8) documented significant correlation between ranking of family needs and older family members but there was no specific evidence of correlations between CCFNI dimensions and age. More recently, Al-Mutair et al. (9) have portrayed insignificant correlations between age and CCFNI dimensions. This is in contrast with previous study where types of relationship was found to be associated with the CCFNI. For instance, Leske (26) reported that adult children addressed comfort dimension as less important compared to spouses of the patients who rated comfort as more important.

With regards to level of education, Assurance found to be significantly differ between respondents with bachelor degree and lower secondary education. Precisely, family members with a bachelor degree seek for a higher level assurance compared to those who obtained lower secondary education. Surprisingly, significant difference was not observed with respondents with bachelor degree with those respondents with primary education although Chatzaki et al. (8) documented that education level of the family members greatly affect the family needs for the dimension of support.

LIMITATIONS OF THE STUDY

The present study posed several limitations; a limitation in terms of inclusion criteria of patient's family members. Here, the respondents of this study are those family members of patients who admitted more than 72 hours (3 days), therefore the response pattern in terms of family needs may differ with those patient's family members with sudden admission (less than 3 days). Next, the use of a convenience sampling method may limits the generalizability of the findings. As this study only

focused on family members of patients admitted to ICU of Hospital Universiti Sains Malaysia, therefore, it does not cover all Malaysian hospital settings (e.g: private and government hospitals). Since the study is conducted in HUSM, Kelantan where majority of the population is Malay ethnicity, therefore, the results generated in this study inclined towards Malay population.

CONCLUSION

The findings of the present study contribute knowledge into Malaysian medical literatures pertaining to the needs of patient's family members. While this study provides baseline data for many healthcare providers, it has potential to raise awareness on the importance of family needs among healthcare providers, policy makers and also to public. It is highly anticipated that the findings of this study should be a platform for the development of family-focussed care module that acknowledge and respects all needs of the patient and his or her family members or caregivers. Such modules allow the healthcare providers to practice a family-sensitive healthcare policy in Malaysia.

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