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The Needs of Critical Care Unit Patient's Family Members in East Cost Malaysia: A Cross-Sectional Study

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ABSTRACT

Introduction: Involving family members is integral to the healing process and the patient's well-being in the Critical Care Unit (CCU). However, having a patient hospitalised in the CCU is quite challenging for the patient's family members and has become a traumatic experience for them. Therefore, the study objectives are to identify the important needs of CCU patients' family members and determine the relationship between their needs and sociodemographic characteristics. **Methods:** A cross-sectional study was conducted among family members of patients who were admitted to the CCU in one government hospital in East Malaysia. About 96 participants were identified using convenience sampling and answered 42 questions in the Malay Critical Care Family Needs Inventory (CCFNI-M). The data were analysed using IBM-SPSS Statistics Version 25. **Results:** Most of the family members who cared for the patient in the ICU were female, 76% (n = 73). The findings demonstrated that family members ranked assurance (3.69 ± 0.26) and information (3.59±0.34) as the most important needs compared to proximity (3.18±0.46), support (3.04±0.50), and comfort (2.53±0.46). There was no association between family members' age, gender, and experience with assurance, support, comfort, proximity, and information needs when the p-value >0.05. **Conclusions:** In conclusion, recognising and addressing the needs of the ICU patient's family members is crucial for the strategy of CCU patient-family-centered care. The result of the study informs the importance of the involvement of family members in supporting CCU patients. By prioritising their needs and offering tailored support, healthcare providers can contribute to better patient outcomes and improved family well-being.

Keywords: Critical Care; Family Need; Intensive Care; Relative Need

INTRODUCTION

The critical care unit of a hospital is a vital setting where patients with severe illnesses or life-threatening conditions receive specialised and intensive medical care. Having a loved one hospitalised in the CCU can be painful for a patient's family. According to Josepha op't *et al*. (2020), a family member in a healthcare context is someone who is connected by blood, such as parents, siblings, or children, or by legal marriage, such as a spouse, and includes close relatives who are involved in the patient's care and well-being. There have been reports of a high incidence and severity of family members' burdens (Alsharari, 2019). Family members facing emotional instability can be stressful and life-altering (Koukouli *et al.*, 2018; Björk, Lindahl & Fridh, 2019). While the primary focus within these units is to attend to the medical needs of the patients, it is imperative to acknowledge and address the unique needs of their family members, who play a crucial role in the care process. In the CCU, healthcare providers (HCPs) focus on patients as individuals and involve family members as a vital element of treatment, necessitating communication with family members (Mitchell *et al.*, 2016). As frontline caregivers in CCUs, nurses play a pivotal role in facilitating communication, providing emotional support, and addressing the concerns of patients and their family members. More men than women are admitted to ICUs around the world; it remains unclear if this represents equitable access to critical care (Kotfis, Olusanya & Modra, 2024).

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A patient's admission into the CCU commonly occurs unexpectedly when their medical condition rapidly deteriorates (Alsharari, 2019). The situation was having a high impact on both the patient and their family members. As CCU patients, most of them are critically ill, intubated, and ventilated with different levels of sedation, which limits their ability to communicate and interact with people around them, especially their family members (Björk, Lindahl & Fridh, 2019) and interferes with the patient's ability to decide the best treatment for themselves (Mitchell *et al*., 2016). The patient was likely incompetent enough to represent themselves; therefore, family members are reliable surrogates to decide the best treatments for their loved ones (Moss *et al*., 2019).

Although family members must deal with a loved one's critical illness, they must also adjust to the unfamiliar and daunting Intensive Care Unit (ICU) environment (Dijkstra *et al*., 2023). Significant distress among CCU family members is caused by the indeterminacy of CCU patients' state and prognosis, invasive mechanical ventilation, restrictive visiting policies, medication use by relatives, and maladaptive behavior of family members (Rückholdt *et al*., 2019; Iglesias *et al*., 2022). Family members suffer from psychological imbalance; they have moderate to high stress levels (Barth *et al*., 2016) and are exposed to the risk of anxiety, depression, and posttraumatic stress disorder (PTSD) (Abdul Halain *et al*., 2022; Iglesias *et al*., 2022). These psychological challenges are significantly more frequent when the relative is a spouse or bereaved family member (Alsharari, 2019).

Hence, this circumstance compels them to have various needs that must be met to adapt to these challenges. Valle & Lohne (2021) emphasised that HCPs need to ensure their relatives in the ICU are treated with the optimum quality of care and hope for a good prognosis. Thus, they must be informed about the patient's condition, prognosis, and treatment options. Family meetings facilitate communication between HCPs and family members to inform and update all required information for the family member. Yet, Davidson (2009) state that family needs are almost ignored, and they are not regarded as care team members. Consequently, it negatively affects patients' psychological and physical well-being, which causes a delay in the patient's physiological recovery process (Azoulay *et al*., 2003). Thus, nurses should recognise and address the needs of CCU patients' family members, which is integral to fostering a supportive and healing environment. Therefore, the study aims to determine the important needs of CCU patients' family members. This research's novelty lies in its unique focus on the East Coast region of Malaysia, which has distinct cultural and social factors influencing the needs of family members in CCU. By focusing on this unique group, this study adds significant knowledge to improving family-centered care in CCUs in the East Coast region.

METHODOLOGY

Study Design

This study was a descriptive, cross-sectional research design and was conducted at the Intensive Care Unit (ICU), Coronary Care Unit (CCU), and Acute Stroke Ward (ASW) in one of the government hospitals in East Coast Malaysia. ASW was included in this study because the unit's environment was similar to CCU for treating patients requiring critical care due to non-traumatic brain injury.

Sample Size Estimation

The sample size was estimated by using a single proportion sample size formula with the power of the study at 80%, a significance level of 0.05, and a 95% confidence interval. The required sample was 96 after adding a 20% drop-off rate.

Study Respondent

Out of 96 family members with relatives admitted to the ICU, CCU, and ASW were selected to participate in the study using convenience sampling. The inclusion criteria were a family member with a relative admitted to the ICU, CCU, or ASW for at least 48 hours, age 18 and above, and Malaysian nationality. While ICU, CCU, and ASW patients' family members who are unable to read and write and who have a visual impairment were excluded from the study.

Sampling Procedures and Respondent Recruitment

A convenience sampling technique was employed to identify family members while they were waiting for

their hospitalised relatives in the ICU, CCU, and ASW. First, the researcher approached family members readily available in the family's ICU, CCU, and ASW waiting rooms. Next, the researcher introduced herself, briefly explained the study's purpose, and obtained informed and written consent. Then, the questionnaire was distributed to those who agreed to participate in the study and fulfill the inclusion criteria. They were given ample time to answer the questionnaire and return the completed form in the box near the exit waiting room.

Study Instrument

The study used a self-administered structured questionnaire, which consisted of two parts. Part one consists of demographic information on CCU patients' family members. The variables for demographic characteristics were gender, age, educational level, relationship status, patient length of stay in the CCU, and family members' experience caring for their relatives in the CCU. Meanwhile, part two adopted the Malay Critical Care Family Needs Inventory (CCFNI-M) (Dharmalingam *et al*., 2016). The CCFNI-M comprises 42 items in the five domains of needs for CCU patients' family members (11 items of assurance, 6 items of information, 7 items of proximities, 6 items of comfort, and 12 items of support). All the items' responses used a Likert scale ranging from 1 to 4 (1= being not important and 4= very important). The overall maximum score for CCFNI-M is 168, and the minimum is 42. The Cronbach's alpha for general-scale CCFNI-M was 0.9 (17). A pilot study was conducted before the actual data collection, and the overall results of Cronbach's alpha were 0.81 and 0.90. The internal consistency score for the five domains is between 0.68 and 0.85. Since the internal consistency of the pilot study is categorised as accepted and good, there is no amendment to the CCFNI-M in the current study.

Ethical Consideration

The study received approval from the UiTM Research Ethics Committee, Malaysia with reference number REC/12/2021 (UG/MR/1177) on 3rd September , 2019 and the National Medical Research Register (NMR) NMRR-19-2725-49904 (IIR) on 4th November, 2019.

RESULTS

Demographic Data

The mean and standard deviation (SD) for family members' age were 39.80 (SD:6.12) years old, and the patient's length of stay in the CCU was 68.75 (SD:9.21) hours. Most respondents were 73 (76.0%) females, and the rest were 23 (24%) males. With regards to respondent relationships, most of them were adult children (42.7%), followed by spouses (32.4%), parents (12.5%), siblings (7.3%), and relatives (5.2%). Most respondents had no experience caring for their family in the CCU, 67 (69.8%), and the rest, 29 (30.2%), had experience caring for patients in the CCU, as shown in Table 1.

Table 1: Demographic Characteristics

Variable	Frequency (%)	Mean (SD)
Age		39.80 (6.118)
Patient length length of stay in ICU/CCU/Acute stroke ward		68.75 (9.210)
Gender		
Male	23 (24.0)	
Female	73 (76.0)	
Family Patient Relationship		
Spouse	31 (32.3)	
Child	41 (42.7)	
Parent	12 (12.5)	
Sibling	7 (7.3)	
Relative	5 (5.2)	
Educational Level		
Primary	7 (7.3)	
Secondary	63 (65.6)	
Diploma	11 (11.5)	
Degree	14 (14.6)	
Master	1 (1.0)	
Family Members ICU Experience		
No	67 (69.8)	
Yes	29 (30.2)	

notes: n = 96

Table 2 shows the mean values of the CCFNI-M items among CCU patients' family members, ranging between 3.95 and 2.61. Item 16 "to be assured that the best care possible is being given to the patient" is the top crucial need of assurance that attained the higher score (3.95±0.27), followed by item 1 "to know the expected outcome" (3.91±0.29), and item 5 "to have a question answered honestly" (3.88±0.39). All of these needs fall under the assurance dimension. On the other hand, the least important needs ranked among family members were "to have comfortable furniture in the waiting room" (2.77±0.97), "to have a place to be alone while in the hospital" (2.71±0.93), and "to feel it is alright to cry when I want to" (2.61±0.83).

Table 2: Rank Order of Items Identified by Patient's Family Members

Items	Dimension		Means (M)	SD
16	Assurance	To be assured that the best care possible is being given to the patient.	3.95	0.266
1	Assurance	To know expected outcome	3.91	0.293
5	Assurance	To have question answered honestly.	3.88	0.391
40	Assurance	To know specific facts concerning the patient's progress.	3.75	0.435
15	Information	To know how the patient is being treated medically	3.72	0.537
37	Assurance	To be told about transfer plans while they are being made.	3.72	0.475
38	Assurance	To be called at home about changes in patient's condition.	3.7	0.526
24	Information	To talk about the possibility of the patient's death.	3.69	0.568
13	Information	To know why things were done for the patient	3.66	0.52
18	Information	To know exactly what is being done for the patient.	3.66	0.52
42	Proximity	To have waiting room near the patient.	3.66	0.54
34	Assurance	To have information given that are understandable.	3.64	0.583
4	Comfort	To have a specific person to call at hospital when unable to visit.	3.59	0.642
39	Assurance	To feel that hospital personnel care about the patient.	3.56	0.558
3	Assurance/inf	To talk to the doctor every day.	3.54	0.679
9	Support	To have direction as to what to do at the bedside.	3.54	0.614
36	Assurance	To help with the patient's physical care.	3.49	0.598
11	Information	To know which staff members could give what type information.	3.46	0.56
2	Assurance	To have explanations of the environment before going into critical care unit.	3.45	0.647
35	Support	To have visiting hours start on time.	3.4	0.688
31	Proximity	To have a bathroom near the waiting room.	3.38	0.798
20	Comfort	To feel accepted by staff hospital.	3.35	0.649
14	Information	To know types of staff taking care of patient	3.34	0.63
8	Proximity	To have good food available in hospital.	3.31	0.772
41	Proximity	To see patient frequently.	3.3	0.783
7	Comfort	To talk about feeling about what was happened.	3.26	0.714
27	Support	To be assured it is alright to leave the hospital for a while.	3.21	0.78
6	Comfort	To have visiting hours changed for special conditions.	3.16	0.875
25	Support	To have another person with me when visiting the critical unit.	3.1	0.876
33	Support	To be told about someone to help with family problems.	3.04	0.857
23	Support	To have a pastor visit.	3.03	0.814
12	Support	To have friends nearby to support.	3.02	0.808
28	Proximity	To talk with same nurse every day.	2.93	0.811
10	Proximity	To visit any time.	2.9	0.912
30	Support	To be told about other people that could help with problems.	2.9	0.84
21	Support	To have someone to help with financial problems.	2.89	0.869
32	Support	To be alone whenever I want	2.85	0.846
26	Support	To have someone concern about my health.	2.84	0.91
22	Proximity	To have telephone near the waiting room.	2.79	1.045
19	Comfort	To have comfortable furniture in waiting room.	2.77	0.968
17	Comfort	To have a place to be alone while in the hospital.	2.71	0.928
29	Support	To feel it is alright to cry when I want to.	2.61	0.826

Notes: n=96

Table 3 presents the mean value of the CCFNI-M dimension that CCU patients' family members perceived, ranging between 2.53 and 3.69. Assurance is the most important patient's family need in the CCU (3.69 ± 0.26) followed by information (3.59±0.34), proximity (3.18±0.46), support (3.04±0.50), and comfort (2.53±0.46).

Table 3: Patient's Family Members' Perception towards the Needs of Patient's Family Members in the CCU

Domain	Means (M)	SD
Assurance	3.69	0.258
Information	3.59	0.344
Proximity	3.18	0.457
Support	3.04	0.498
Comfort	2.53	0.456

Notes: n=96

There is no significant association between family member age and the assurance dimension (r =0.018, p = 0.862), the support dimension (r = -0.063, p = 0.544), comfort (r =0.097, p = 0.349), proximity (r = -0.193, p = 0.06), or information dimension (r =-0.131, p = 0.202) (Table 4).

Table 4: Correlation between Family Member's Age and CCFNI-M Dimension

Variable	Family Member Age	
	r	*P-value*
Assurance	0.018	0.862
Support	-0.063	0.544
Comfort	0.097	0.349
Proximity	-0.193	0.060
Information	-0.131	0.202

Pearson Correlation Coefficient

Table 5 illustrates that there is no significant correlation between family members' gender and the assurance (rpb =0.097, p> 0.05), support (rpb = 0.037, p > 0.05), comfort (rpb = -0.080, p > 0.05), proximity (rpb = -0.146, p > 0.05), and information (rpb = -0.012, p > 0.05) dimensions. The study also found that there was no significant correlation between family members past experience in the CCU with assurance (rpb =-0.069, p > 0.05), support (rpb = -0.037, p > 0.05), comfort (rpb = -0.110, p > 0.05), proximity (rpb =0.146, p > 0.05), or information dimension (rpb =0.043, p > 0.05).

Table 5: Correlation between Family Member Gender and Previous CCU Admission with CCFNI-M Dimension

Variable	Gender		Previous experience with family members' CCU hospitalization	
	r_{pb}	*P value*	r_{pb}	*P value*
Assurance	0.097	0.349	-0.069	0.503
Support	0.037	0.719	-0.037	0.721
Comfort	-0.080	0.438	-0.110	0.288
Proximity	-0.146	0.156	0.146	0.157
Information	-0.012	0.907	0.043	0.677

Biserial Correlation Coefficient

DISCUSSION

This study aims to identify the important needs of CCU patients' family members. The study found that assurance was the top need, followed by information for family members who have relatives in the CCU, compared to other need dimensions. This study finding was in line with worldwide studies (Alsharari, 2019; Salameh *et al*., 2020; Kang, Cho & Choi, 2020), where ICU patients' family members identified assurance as

their first need and then information. In Malaysia, the finding was congruent with previous studies in Malaysia's universities and public hospitals (Liew *et al*., 2018; Dharmalingam *et al*., 2016; Zainah *et al*., 2016; Akhlak & Shdaifat, 2016). This is because emotional support and understanding their loved one's condition are crucial factors in managing their own anxiety, coping with the situation, and making informed choices. However, there were different findings when compared to the earliest observation of ICU patients' family needs in Malaysia, where the need for proximity was identified as the second most pressing need after the need for assurances in a public hospital in the northern region of Malaysia (Hashim & Hussin, 2012). However, it is important to note that the specific needs of family members can vary depending on individual circumstances, cultural factors, and personal preferences. Thus, nurses are suggested to elucidate the specific needs identified by family members in the CCU to deliver more targeted and effective interventions, ultimately enhancing the overall care experience for patients and their families.

The uncertainty and anxiety of family members about loved ones' conditions and prognosis and their unfamiliarity with the CCU environment demand the need for assurance and information. Both important needs are expected among family members who have relatives in CCU. The policy in almost all CCUs is that family members are not relied upon to provide care compared to open wards. Meeting ICU family needs can be addressed by supporting and involving families in the care of critically ill family members (Azoulay *et al.*, 2003). The participation of family members in caregiving, decision-making, and ICU rounds helps establish communication and trusting relationships between family and HCP (Yoo & Shim, 2021). Facilitating effective communication and interacting in supportive ways by HCPs assists family members to understand the overall picture of the patient's situation, decreases CCU patients' family members' anxiety and stress, increases family members' sense of confidence, lessens the sense of guilt when making surrogate decisions, and prevents family members misconceptions about HCPs (Wong *et al*., 2015; Hutchison *et al.*, 2016). This is in line with the patient-family-centered approach, which recognises that patients, families, and staff are vital to the delivery of better healthcare (Frakking *et al*., 2020).

In addition, this study's finding suggests there is no significant correlation between assurance, support, comfort, proximity, and information dimensions with CCU patients' family age, gender, and past family experience in the CCU. In contrast, a study conducted at the University Hospital in East Malaysia demonstrated a negative and significant relationship between the assurance dimension and age (Dharmalingam *et al.*, 2016) and a significant association between gender and support needs among family members in the critical care unit at one of the University Hospitals in Kuala Lumpur (Zainah *et al*., 2016). Although there may not be a correlation between demographic factors or past familial experience and these specific need dimensions, it is essential to recognise that there are individual differences. Each family member may have unique preferences and coping mechanisms, and nurses, as healthcare providers, should still assess and address these individual needs.

The insignificant correlation between the CCFNI-M dimension and family group age, gender, and experience waiting for the patient in the CCU shown in this study suggests that family members play equal responsibility and that there is no effect on their support in supporting their relative in the CCU. They are likely to prioritise meeting the needs of their critically ill relatives compared to their own (Alsharari, 2019). Brookes *et al.* (2019) state that families understand the importance of their role in supporting their loved ones in the CCU and are equally dedicated to fulfilling that responsibility, irrespective of their personal characteristics. This also illustrates a strong and positive family relationship in Malaysian culture; each family member plays an important role in supporting their critically ill relative. Thus, this study's findings contribute valuable insights to nursing practice, emphasising the importance of recognising and respecting the integral role of families in the CCU setting.

CONCLUSION

The study concludes that family members ranked assurance and information as two of their top priorities. The study's strength was expanding the body of knowledge on CCU patients' family needs, particularly in the Malaysian setting, which might help future research develop a strategy for strengthening patient- and family-centered care. One of the limitations is that the study employed a convenience sampling technique with an inability to generalise to the population. The study focused on a single center where most of the study population

was Malay and Muslim. Therefore, the study's findings did not cover CCU patients' family needs among other ethnicities, cultures, and beliefs in Malaysia. Future research in this area should adopt a multi-centred approach to examining the needs of family members in Malaysian CCUs. Triangulation in methodology and data sources is suggested for an in-depth understanding of family needs in CCUs. Incorporating perspectives from multiple CCUs across different regions in Malaysia and utilising diverse data sources such as surveys, interviews, and observations can help researchers gain comprehensive insights into the diverse needs and experiences of family members in CCUs. In conclusion, recognising and addressing the needs of family members of critical care unit patients is crucial for providing comprehensive care and support. By prioritising their needs and offering tailored support, nurses can contribute to better patient outcomes and improved family well-being.

Conflict of Interest

The authors declare that they have no competing interests.

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