

# Family Needs of Critically Ill Patients Admitted to the Intensive Care Unit, Comparison of Nurses and Family Perception

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**Abstract:** In critical care unit, nurses provide care for critically ill patient and provide support for patient's families. Also, critical illness has an effects on patient' families and may threatened their stability. The aim of the study was to identify the perception of critically ill patient's family and nurses' towards family needs, and the extent to which those needs are viewed as met. A descriptive research design was used in this study. The study was conducted at medical, anesthesia and neurology Intensive Care Units (ICU) at Tanta University and Emergency Hospitals, Tanta, Egypt. All critical care nurses working in the three units were included in the study. Also, Convenience sample of 90 family members of critically ill patients were included. Two tools were utilized to collect data: Tool (I): Socio-demographic characteristics of family members and nurses. Tool II: The combined 30-item version of the Critical Care Family Needs Inventory/Needs Met Inventory (CCFNI/NMI). The results of this study reported that the mean score of important information needs perceived by family members was increased ( $24.04 \pm 3.09$ ), while it was ( $22.12 \pm 3.05$ ) among the studied nurses. Also, the mean score of MET information needs perceived by family members was ( $18.02 \pm 2.36$ ) while it was ( $19.54 \pm 2.32$ ) among studied nurses. The mean score ( $24.17 \pm 2.26$ ) of important item of proximity domain was increased among studied family members than among nurses ( $22.64 \pm 2.43$ ). It was concluded that most of the important needs perceived by family members in the three ICUs are not always met except some needs were met in little percentage. Nurses and patients' families had ranked higher mean score regarding the information, proximity and assurance needs than support and comfort needs. It was recommended: Nurses need to continuously identify strategies to best meet the needs of family members in times of crisis.

**Keywords:** Family Needs, Nurses Perception, Family Perception

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## 1. Introduction

Hospitalization of critically ill patients to an Intensive Care Unit (ICU) represents a moment of crisis for them and their family members. This may result in many physiological and psychosocial problems because they are not adequately prepared for such a stressful situation [1, 2]. The intensive care unit environment included most of the sophisticated and complicated equipment such as intravenous lines, medications, ventilators, monitors, and sounds alarms that are unfamiliar to the patient's family [3].

Critically ill patients cannot make decisions about their medical treatment and their family may be asked to make

treatment decisions on the patient's behalf. This cause pressure, stress and increasing their psychosocial needs [4]. The family of critically ill patients is an integral part of the care of the critically ill patient, they provide support to their patient and can be instrumental in the patient's recovery [5]. However, the family's ability to provide love and support for their patient, as well as make decisions about the patient's care is hindered during periods of emotional distress, especially in situations where patients cannot speak for themselves [6].

Family members may experience feelings of anxiety, fear, physical, mental fatigue, hopelessness and changes in family roles result from uncertainty about the patient's diagnosis,

prognosis, fear of death, financial concerns, and unfamiliarity of the intensive care environment, especially during the first 24 hours after ICU admission [7, 8]. Also Family members may be shocked by the physical appearance and other devices attached to their patients that causing constant alarm sounding [9]. This situation may affect patient's recovery and family members may have difficulty in coping with their stress and may use maladaptive coping strategies [10, 11].

Family members of critically ill patient are the first people that recognize satisfied care provided to their patients regardless of clinical outcomes. Therefore, health care staff must determine what family members consider when assessing their level of satisfaction with the overall care provided [12]. Identifying and meeting the needs of patients' family members is an essential part of the responsibilities of nurses, who are committed to reduce suffering of patient's family [13].

The most important documented needs of patient's family admitted to intensive care unit are to get understandable and honest information about the patient's conditions. Giving information to the family members helping them to understand and adjust to these stressful situations [14, 15]. On the other hand, the patient's condition may be unstable and this may cause the health care staff to give nonspecific and ambiguous information about the patient's condition to protect the families against stress [16]. However, giving information to the family member becomes an ethical challenge to critical care nurses, because they may feel worry whether to be honest or to give hope about patient's condition [17]. Many studies have shown that given information and support for the family member will help them to adapt with these stressful situations and their expectations about patient's prognosis will be closer to the reality [18, 19]. Also the need for assurance, comfort and to see the patient regularly is very important needs that family member want to get in some conditions [20].

Finally, Critical care nurses, who are in close contact with patients, are in an ideal position to help family members to meet their needs and deal with the stressful situation. Identify and meeting the needs of family members can have an effect on a patient's ability to cope with illness during his stay in an intensive care unit. So, the critical care nurse should recognize the important needs of family members, and provide intervention to those in need of support [21, 22]. Therefore, the purpose of this study is to identify the perception of critically ill patient's family and nurses' towards family needs, and the extent to which those needs are viewed as met.

## 2. Significance of the Study

The intensive care unit is a highly stressful environment which affecting patients' family and health care members. The nursing care in critical care settings at Tanta, Egypt was almost directed to the management of critically ill patients with a little attention toward their families. This might be due to nurse's shortages, inadequate knowledge and insufficient

training to manage this process. Identifying and meeting the patient's family needs is a component of providing holistic health care to critically ill patients.

## 3. Subjects and Methods

### 3.1. Aim of the Study

The aim of this study was to identify the perception of critically ill patient's family and nurses' towards family needs, and the extent to which those needs are viewed as met

### 3.2. Research Questions

To fulfill the aim of the study, the following research questions were formulated:

Q1: How do critical care nurses perceive family needs in (ICUs) and how do they meet these needs?

Q2: How do family members perceive their needs in ICUs?

Q3: What is the comparison between nurses' and families' perception of family needs in the ICUs?

### 3.3. Subjects

The target population consisted of two groups as follow:

Group (1): Critical care nurses (81) working in (ICUs) at main Tanta University and Emergency Hospital, they were classified as follow: (25) Nurses from Medical ICU, (28) nurses from neurology ICU, (28) nurses from anesthesia ICU. Nurses not willing to participate in the study & less than one year work experience in critical care unit will be excluded from the study.

Group (2): Convenience sample of 90 family members of critically ill patients in the three ICUs, 30 family members from each ICU.

### 3.4. Inclusion Criteria for Family Members

- (1) Age of 21 years or older
- (2) First degree relatives of patient (parent, Son, spouse, sister, brother)
- (3) Visited the critically ill patient within 24 to 72 hours after admission of the patient to the ICU.
- (4) Willing to participate in the study

The sample size calculation was determined based on the total patient's population admitted to each unit annually and it was about 300 patients admitted to each unit. The sample size was 30 family members from each ICU.

### 3.5. Research Design

A descriptive research design was utilized in the current study.

### 3.6. Setting

The study was conducted at Medical ICU, Neurological ICU and anesthesia ICU at Main Tanta University and Emergency Hospital. Number of beds were (16) in anesthesia, (15) in medical and (20) beds in neurology

intensive care unit, there's no available waiting room for family members, number of attending physicians was one physician in medical ICU and 2 physicians in anesthesia and neurology ICUs, number of junior physician was one physician in each unit. The nurse to patient ratio was 1:2 in anesthesia and medical intensive care unit and was 1:3 in neurological intensive care unit; total daily visiting hours was one hour in anesthesia and neurological intensive care unit and 2 hours in anesthesia intensive care unit.

### 3.7. Tools

Two tools were utilized to collect data pertinent to the current study:

Tool I: Socio-demographic characteristics. This tool was developed by the researchers. It was divided into two parts as follow:

Part (a): Socio-demographic data of family members of critically ill patients. It included data related to age, sex, and relation with patient, Commuting time to hospital and more information that family needs to know about patient.

Part (b): Socio-demographic data of critical care nurses. It included data related to nurse's age, sex, level of education, marital status, and experience years.

Tool II: The combined 30-item version of the Critical Care Family Needs Inventory/Needs Met Inventory (CCFNI/NMI). It was developed by Molter and Leskes [23] and adopted by (Norris & Grove, 1986) [24]. It covered two parts:

Part (A): The Critical Care Family Needs Inventory (CCFNI). It was used to assess the perceptions of patients' family members and nurses about the importance of various family needs. The 30-items inventory consists of five main domains: information (7 questions), support (7 questions), proximity (7 questions), assurance (7 questions) and comfort (2 questions).

Scoring system: This tool used a 4-point Likert scale, as follow: "Not important" is given score (1), "slightly important" is given score (2), "important" is given score (3) and "very important" is given score (4).

Part (B): Needs Met Inventory (NMI). It was used to assess whether self-perceived needs of family members were met or unmet. This scale used the same need items of the CCFNI for both family members and nurses were asked to rate how the needs were being met from (1) is never met to (4) is always met.

Scoring system: This tool used a 4-point Likert scale, as follow: item that never met is given score (1), item that sometimes met is given score (2), item that usually met is given score (3), and item that always met is given score (4).

### 3.8. Content Validity

Tools were reviewed by a panel of five experts in critical care and medical surgical nursing specialties for ensuring content validity. Based on the experts' opinions, the researchers developed the final validated form of the tools.

### 3.9. Pilot Study

A pilot study was carried out on 8 nurses and 10 patients' family members to test feasibility, applicability and objectivity of the study tools. Based on the results of the pilot study, modifications were done.

Reliability of tool: The internal consistency reliability of the CCFNI were 0.88 and the NMI was 0.92 [23, 24].

Protection of human rights: An official permission to conduct the study was obtained from the ethical committee and hospital directors. The participation in the study was voluntary; every subject was informed about the purpose, benefits, and nature of the study and that she/he had the right to withdraw from the study at any time without any rationale, the written consent was obtained from each participant. Confidentiality and anonymity of subjects was assured through coding of all data and all collected information was protected and didn't affect their annual appraisal.

### 3.10. Procedure

The study was carried out on two phases:

#### 3.10.1. Preparation Phase

This phase concerned with constructing and testing data collection tools, in addition to the managerial arrangements to carry out the study and conduct the pilot study. Critical care nurses and patients' family members who agreed to participate in the study interviewed individually by the researcher to explain the nature and purpose of the study. The questionnaires are prepared by the researchers and translated from English into Arabic language to facilitate data collection from the participants especially the family members

#### 3.10.2. Implementing Phase

In this phase, the researchers visited nurses that working in the selected ICUs daily during their working shifts (morning and afternoon). Each nurse was interviewed individually for 15-30 minutes to fill out the questionnaires (Tool I and II). The researchers clarified and answered any related questions. Only a single family member who had the criteria for participation in this study was interviewed individually by the researchers within 24-72 hours of patient admission. Family members were face-to-face interviewed during the unit visiting hours, in the morning and afternoon to fill out the questionnaires by researcher. The duration of the interviews varied between 30 and 60 minutes. Data were collected from May 2016 to October 2016.

Statistical analysis: The analysis was performed using statistical software SPSS version 23. For quantitative data: mean and standard deviation were calculated. For qualitative data: A comparison between groups was done by using Chi-square test. For a comparison between means of two variables, the t- test was used. A significance was adopted at  $P < 0.05$  for interpretation of results of tests of significance. For Correlation, Pearson's correlation coefficient (r) was used.

## 4. Results

Table 1. It shows the sociodemographic data of patients family members in the three ICU, it was observed that, the mean scores of age of patient family-member in anesthesia, medical and neurology ICUs were (36.73±11.72, 44.60±11.94 and 38.33±8.93) respectively. Also, more than half (53.3%) and about two third (63.3%) of family members in anesthesia and neurology ICUs were female while nearly two third (60%) of the participants in medical ICU were male. Concerning their relations with the patient, one third

(33.3%) and more than one third (46.7%) of medical and anesthesia ICUs were parents relation respectively and (43.3%) of them were son relation in neurology ICUs. Regarding commuting time to hospital, the majority (70%, 73.3% and 86.7%) of participants, in anesthesia, medical and neurology ICUs had more than 60 minute distance duration to reach to hospital respectively. Also, more than half (56.7%) of family members in anesthesia ICU need more information about prognosis of diseases and more than one half (53.3%) of them in medical and neurology ICUs need more information about diagnosis of the patients.

*Table 1. Sociodemographic characteristics of the studied family members at the studied ICUs.*

Characteristics	The studied ICU patients family members (n=90)						$\chi^2$ P
	Anesthesia (n=30)		Medical (n=30)		Neurology (n=30)		
	N	%	N	%	N	%	
1. Age (in years)							
▪ 20-30	9	30.0	6	20.0	9	30.0	12.70 0.048*
▪ 31-40	5	16.7	5	16.7	10	33.3	
▪ 41-50	14	46.7	9	30.0	7	23.3	
▪ 51-60	2	6.7	10	33.3	4	13.3	
Range		(20-60)		(24-60)		(25-52)	F=4.326
Mean ± SD		36.73±11.72		44.60±11.94		38.33±8.93	P=0.016*
2. Sex							
▪ Male	14	46.7	18	60.0	11	36.7	3.30
▪ Female	16	53.3	12	40.0	19	63.3	0.192
3. Relation with patient							
▪ Wife/husband	8	26.7	4	13.3	9	30.0	11.41 0.08
▪ Parent	10	33.3	14	46.7	6	20.0	
▪ Son	6	20.0	6	20.0	13	43.3	
▪ Brother/sister	6	20.0	6	20.0	2	6.7	
4. Commuting time to hospital							
▪ 60 min	9	30.0	8	26.7	4	13.3	2.61
▪ more	21	70.0	22	73.3	26	86.7	0.271
5. Family need more information about							
▪ Diagnosis	12	40.0	16	53.3	16	53.3	3.13
▪ Prognosis	17	56.7	14	46.7	14	46.7	0.537
▪ Treatments	1	3.3	0	0.0	0	0.0	

\* Significant at P < 0.05.

Table 2. It represents sociodemographic characteristics of the studied nurses at the studied ICUs:

In this table, it is found that most of participants (71.4%) and (88.0 %) of critical care nurses in anesthesia and medical ICUs were aged between (20-30) years while half (50%) of them in neurology ICU were aged between (31-40) years. Nearly all nurses (92.9%, 100% and 92.9%) were female. Also, more than two third (72.0%) of nurses in anesthesia

and the majority (85.7%) and (96.4%) of nurses in medical and neurology ICUs were married respectively. Most of nurses (75.0%) and (72%) in anesthesia and medical ICUs respectively compared to (42.9%) in neurological ICUs had bachelor degree. Majority (82.1% and 92%) of nurses in anesthesia and medical ICUs, respectively had level of experience between 1-10 years compared to (57.1%) in neurological ICUs.

*Table 2. Sociodemographic characteristics of the studied nurses at the studied ICUs.*

Characteristics	The studied ICU nurses (n=81)						$\chi^2$ P
	Anesthesia (n=28)		Medical (n=25)		Neurology (n=28)		
	N	%	N	%	N	%	
1. Age (in years)							
▪ 20-30	20	71.4	22	88.0	13	46.4	11.59 0.021*
▪ 31-40	8	28.6	3	12.0	14	50.0	
▪ 41-50	0	0.0	0	0.0	1	3.6	
Range		(24-35)		(23-35)		(25-43)	F=15.93
Mean ± SD		27.96±3.44		26.24±2.96		32.54±5.67	P=0.00*
2. Sex							
▪ Male	2	7.1	0	0.0	2	7.1	1.88
▪ Female	26	92.9	25	100.0	26	92.9	0.391

Characteristics	The studied ICU nurses (n=81)						$\chi^2$ P
	Anesthesia (n=28)		Medical (n=25)		Neurology (n=28)		
	N	%	N	%	N	%	
3. Marital status							
▪ single	4	14.3	7	28.0	1	3.6	6.26
▪ Married	24	85.7	18	72.0	27	96.4	0.044*
4. Eductional level							
▪ Bachelor	21	75.0	18	72.0	12	42.9	19.86
▪ Technical institute	7	25.0	7	28.0	7	25.0	0.001*
▪ Diplome	0	0.0	0	0.0	9	32.1	
5. Experience years							
▪ 1-10	23	82.1	23	92.0	16	57.1	15.20
▪ 11-20	5	17.9	2	8.0	6	21.4	0.004*
▪ >20	0	0.0	0	0.0	6	21.4	
Range	(2-15)		(3-15)		(3-22)		F=13.90
Mean ± SD	6.79±3.61		5.00±3.12		11.61±6.61		P=0.00*

\* Significant at P < 0.05.

Table 3 shows the frequency distribution of the very important needs statements in the C-CCFNI reported by studied patient's family members in the three ICUs. The very important needs in the C-CCFNI reported by the family members in anesthesia, medical and neurological intensive care units related information need was "to know how the patient was being treated (63.3%, 51.0% and 80% respectively) with significant difference was observed where P=0.044, and "to talk to the doctor every day" (80%, 53.3% & 60%) was reported as important needs respectively. The next two needs from the support subscale reported by family member were "to have directions regarding what to do at the bedside" (43.3%, 40% & 56.7%) and "To talk about the possibility of the patient's death" (60%, 33.3% & 66.7%) respectively with significant difference was observed

(P=0.002).

In addition, the very important subscale of Proximity needs in three units were "to be told about transfer plans" (80.0%, 50% & 76.7%), with P=0.047 and "To see the patient frequently" (50%, 33.3% and 63.3%) and "to be called at home about changes in the patient's condition" (80%, 63.3% & 70%), respectively. As for needs for assurance, the very important items reported by family members in three ICUs were "to know the prognosis (80%, 40% & 70%) respectively, with P=0.026 and "to have explanations given in terms that are understandable" (73.3%, 50% & 50%) respectively. Furthermore, needs of comfort that reported by family members in in three intensive care was "To feel accepted by the hospital staff" (43.3%, 16.7% & 40.0%) respectively with a significant difference while P=0.00.

**Table 3.** Frequency distribution of the very important needs statements in the CCCFNI reported by studied patients family members in the studied ICUs.

	The studied ICU patients family members (n=90)						$\chi^2$ P
	Anesthesia (n=30)		Medical (n=30)		Neurology (n=30)		
	Not Important	Very important	Not important	Very important	Not important	Very important	
	%	%	%	%	%	%	
<b>Information</b>							
▪ To know how the patient was being treated	0.0	63.3	6.7	50.0	0.0	80.0	12.09 0.044*
▪ To talk to the doctor every day	0.0	80.0	0.0	53.3	0.0	60.0	10.25 0.151
<b>Support</b>							
▪ To have directions regarding what to do at the bedside	0.0	43.3	6.7	40.0	0.0	56.7	11.18 0.082
▪ To talk about the possibility of the patient's death	0.0	60.0	0.0	33.3	0.0	66.7	17.113 0.002*
<b>Proximity</b>							
▪ To be told about transfer plans	0.0	80.0	0.0	50.0	0.0	76.7	9.663 0.047*
▪ To see the patient frequently	0.0	50.0	0.0	33.3	0.0	63.3	5.425 0.066
▪ To be called at home about changes in the patient's condition	0.0	80.0	6.7	63.3	0.0	70.0	5.344 0.254
<b>Assurance</b>							
▪ To know the prognosis	0.0	80.0	3.3	40.0	0.0	70.0	14.305 0.026*
▪ To have explanations	0.0	73.3	6.7	50.0	0.0	50.0	8.051

	The studied ICU patients family members (n=90)						$\chi^2$ P
	Anesthesia (n=30)		Medical (n=30)		Neurology (n=30)		
	Not Important	Very important	Not important	Very important	Not important	Very important	
	%	%	%	%	%	%	
<b>Information</b>							
given in terms that are understandable							0.090
<b>Comfort</b>							
▪ To feel accepted by the hospital staff	0.0	43.3	0.0	16.7	0.0	40.0	21.257 0.00*

\* Significant at P < 0.05.

Table 4 represents frequency distribution of MET needs items perceived by studied family members in the three ICUs, it was found that most of the important needs perceived by family members in anesthesia, medical and neurological intensive care units are not always met except some needs were met in little percentage. informational needs that always met in three intensive care units were "To know how the patient was being treated" (13.3%, 3.3% and 16.7%) respectively with significant differences among three units for P=0.003 and "To know exactly what was being done for the patient" (10 %, 10% and 26.7%) respectively with significant differences among three units where P=0.00.

Regarding support needs, minority of patients family

member in three units (3.3%, 6.7% and 3.3%) perceived that "To talk about the possibility of the patient's death" as always met need with significant differences among three units where P=0.00. Concerning proximity needs, all family members (100%) in the three units reported that "To receive information about the patient once a day" as having been always met. As for assurance needs, the statement that family members perceived as always met was "To know the prognosis" (6.7%, 16.7% and 16.7%) and "To have explanations given in terms that are understandable" (30.0%, 26.7% and 20.0%) respectively. In relation to comfort needs, there's no items reported as always met by all family members in three units.

**Table 4.** Frequency distribution of MET needs items perceived by studied family members in the three ICUs.

Met needs item	The studied ICU family members (n=90)						$\chi^2$ P
	Anesthesia (n=30)		Medical (n=30)		Neurology (n=30)		
	Never Met	Always Met	Never Met	Always Met	Never Met	Always Met	
	%	%	%	%	%	%	
<b>Information</b>							
▪ To know how the patient was being treated	0.0	13.3	0.0	3.3	0.0	16.7	16.224 0.003*
▪ To know exactly what was being done for the patient	23.3	10.0	0.0	10.0	0.0	26.7	25.374 0.00*
<b>Support</b>							
▪ To talk about the possibility of the patient's death	23.3	3.3	3.3	6.7	30.0	3.3	10.087 0.121
<b>Proximity</b>							
▪ To receive information about the patient once a day	0.0	100.0	0.0	100.0	0.0	100.0	-
<b>Assurance</b>							
▪ To know the prognosis	3.3	6.7	6.7	16.7	0.0	16.7	4.968 0.548
▪ To have explanations given in terms that are understandable	3.3	30.0	3.3	26.7	0.0	20.0	13.706 0.128

\* Significant at P < 0.05.

Table 5 presents frequency distribution of important items reported by studied nurses among the three ICUs. It was observed that the most important needs statements reported by studied nurses in anesthesia, medical and neurological ICUs related to the information needs were "To know how the patient was being treated" (64.3%, 20.0% and 60.7%) and "To talk to the doctor every day" (39.3%, 48.0% and 50.0%) respectively. Regarding support needs, "To have directions regarding what to do at the bedside" (42.9%, 32.0% and 39.3%) and "To talk about the possibility of the patient's death" (39.3%, 52.0% and 25.0 %) respectively was identified

by the nurses in anesthesia, medical and neurological ICUs as very important needs of patient family members.

Concerning Proximity needs, the very important items reported by nurses in anesthesia, medical and neurological ICUs were "To told family about transfer plans" (50.0 %, 28.0% and 35.7%), "To be called at home about changes in the patient's condition" (46.4%, 48.0% and 53.6%) and "To have visiting hours start on time (71.4%, 44.0% and 75.0%) respectively. As for assurance needs, "To have questions answered honestly" (67.9%, 60.0% and 67.9%), "To know specific facts about the patient's condition

"(67.9%, 48.0% and 78.6%), "To have explanations given in terms that are understandable and "(35.7%, 44.0% and 71.4% respectively) was reported by nurses as very important family needs.

**Table 5.** Frequency distribution of important items reported by studied nurses among the studied ICUs.

Important Nurses	The studied ICU nurses (n=81)						$\chi^2$ P
	Anesthesia (n=28)		Medical (n=25)		Neurology (n=28)		
	Not important	Very important	Not important	Very important	Not important	Very important	
	%	%	%	%	%	%	
<b>Information</b>							
▪ To know how the patient was being treated	0.0	64.3	0.0	20.0	0.0	60.7	-
▪ To talk to the doctor every day	3.6	39.3	0.0	48.0	0.0	50.0	2.23 0.33
<b>Support</b>							
▪ To have directions regarding what to do at the bedside	3.6	42.9	0.0	32.0	0.0	39.3	1.51 0.47
▪ To talk about the possibility of the patient's death	0.0	39.3	0.0	52.0	0.0	25.0	-
<b>Proximity</b>							
▪ To told family about transfer plans	0.0	50.0	8.0	28.0	0.0	35.7	5.68 0.06
▪ To be called at home about changes in the patient's condition	0.0	46.4	0.0	48.0	0.0	53.6	-
▪ To have visiting hours start on time	0.0	71.4	0.0	44.0	0.0	75.0	-
<b>Assurance</b>							
▪ To have questions answered honestly	0.0	67.9	8.0	60.0	0.0	67.9	4.64 0.098
▪ To know specific facts about the patient's condition	0.0	67.9	0.0	48.0	0.0	78.6	-
▪ To have explanations given in terms that are understandable	0.0	35.7	0.0	44.0	0.0	71.4	-
<b>Comfort</b>							
▪ To feel accepted by the hospital staff	0.0	17.9	4.0	28.0	0.0	42.9	2.21 0.33

\* Significant at  $P < 0.05$ .

Table 6 shows Frequency distribution of MET items reported by studied nurses in ICUs. In this table, the informational needs that reported as always met by nurses for family members in the anesthesia, medical and neurological ICUs were "To know how the patient was being treated" (10.7%, 20.0% and 21.4%) respectively. Also, this finding indicates areas of unmet need that require additional nursing interventions. Regarding support needs, the minority of nurses in three units (3.6%, 20.0% and 3.6%) ranked "to talk about the possibility of the patient's death" as always met for

patient family.

As regard Proximity needs, "To be told about transfer plans" reported as always met by more than one third (39.3%) of nurses in neurological ICU compared to only (3.6%) of nurse in anesthesia ICU. Concerning Assurance needs, the most important item that perceived as always met by nurses in anesthesia, medical and neurological ICUs was "To be assured that the best possible care was being given to the patient" (7.1%, 20.0% and 39.3%) respectively. Regarding comfort needs, there is no items were always met

**Table 6.** Frequency distribution of MET items reported by studied nurses in ICUs.

MET Nurses	The studied ICU nurses (n=81)						$\chi^2$ P
	Anesthesia (n=28)		Medical (n=25)		Neurology (n=28)		
	Never Met	Always Met	Never Met	Always Met	Never Met	Always Met	
	%	%	%	%	%	%	
<b>Information</b>							
▪ To know how the patient was being treated	0.0	10.7	8.0	20.0	0.0	21.4	2.94
<b>Support</b>							
▪ To talk about the possibility of the patient's	3.6	3.6	0.0	20.0	0.0	3.6	3.43

MET Nurses	The studied ICU nurses (n=81)						$\chi^2$ P
	Anesthesia (n=28)		Medical (n=25)		Neurology (n=28)		
	Never Met	Always Met	Never Met	Always Met	Never Met	Always Met	
	%	%	%	%	%	%	
<b>Information</b>							
death							0.18
<b>Proximity</b>							
▪ To be told about transfer plans	0.0	3.6	4.0	0.0	0.0	39.3	13.00 0.002*
<b>Assurance</b>							
▪ To be assured that the best possible care was being given to the patient	0.0	7.1	8.0	20.0	0.0	39.3	4.13 0.13

\* Significant at  $P < 0.05$ .

Table 7. Mean scores of both important and met needs domains among studied samples of both family and nurses in ICUs. It was observed that increased mean score of the important information domain perceived by family member ( $24.04 \pm 3.09$ ) than mean score ( $22.12 \pm 3.05$ ) of the studied nurses with the mean difference of (1.723). In addition, there was decreased of the mean score of met information domain reported by family member ( $18.02 \pm 2.36$ ) than mean score reported by studied nurses ( $19.54 \pm 2.32$ ) with the mean difference of (1.644). A statistical significant difference was observed with ( $P=0.00$ ).

Regarding proximity domain, the mean score of important proximity domain was increased ( $24.17 \pm 2.26$ ) among studied family than nurses mean score ( $22.64 \pm 2.43$ ) with mean difference of 1.302. However, the mean score of met proximity domain among family member was decreased

( $17.97 \pm 2.64$ ) than mean score reported by nurses ( $19.14 \pm 2.67$ ) with mean difference of 1.169. A statistical significant differences was found between important and met proximity domain with  $P=(0.00$  and  $0.005)$  respectively. In relation to support and assurance domain, there was increased mean score of important need ( $21.99 \pm 2.44$  and  $25.03 \pm 2.57$ ) perceived by family member than mean score of studied nurses ( $20.58 \pm 3.46$  and  $24.17 \pm 2.68$ ) with the mean difference of (1.409 and 2.140) respectively. As for comfort domain, no statistical significant differences was found between important and met need among studied family and nurses with  $P=0.201$  and  $0.730$  respectively.

Furthermore, the nurses and patient families in three intensive care units ranked the information, proximity and assurance needs mean score above the needs for support and comfort needs

**Table 7.** Mean scores of both important and met needs domains among studied samples of both family and nurses in ICUs.

Domains		The studied sample (n=171)		Mean Difference	t	P
		Mean ± SD				
		Family (n=90)	Nurses (n=81)			
1. Information	Important	24.04±3.09	22.32±2.90	1.723	3.745	0.00*
	MET	18.02±2.36	19.67±2.34	↓1.644	4.572	0.00*
2. Support	Important	21.99±2.44	20.58±3.46	1.409	3.097	0.002*
	MET	14.50±2.70	14.11±1.83	0.389	1.090	0.277
3. Proximity	Important	24.17±2.26	22.86±2.34	1.302	3.702	0.00*
	MET	17.97±2.64	19.14±2.67	↓1.169	2.876	0.005*
4. Assurance	Important	25.03±2.57	24.17±2.68	0.860	2.140	0.034*
	MET	18.56±2.36	19.32±2.95	↓0.765	1.883	0.061
5. Comfort	Important	6.29±1.13	6.07±1.05	0.215	1.283	0.201
	MET	3.22±0.42	3.25±0.51	↓0.025	0.346	0.730

\* Significant at  $P < 0.05$ .

Table 8. It represents correlation between sociodemographic characteristics (family and nurses) and total mean scores of all important domains. In this table a non-significant correlation was observed among all family members at the three ICUs in relation to their age and ranking of important needs domains where  $P>0.05$ .

Regarding Commuting time to the hospital, only significant correlation was observed among all family members at the three ICUs concerning comfort domain where  $P=0.014$ . As for nurses, there is a significant correlation between nurses age and their ranking for

important domain of proximity and assurance with  $P=0.015$  and  $0.043$ . Also a significant correlation was observed between nurses educational level and domain of comfort where  $P=0.047$ . Furthermore, a negative significant correlation was observed between nurse to patient ratio and important proximity need with  $P=0.007$ . This means that the increased number of patients for each nurse may affect their perception for proximity needs. In addition, a positive and highly statistical significant correlation was observed among all nurses in relation to years of experience and proximity needs with  $P=0.007$ .



**Table 8.** Correlation between sociodemographic characteristics (family and nurses) and total mean scores of important domains.

	Information important		Support important		Proximity important		Assurance important		Comfort important	
	r	P	r	P	r	P	r	P	r	P
<b>I-Family characteristics</b>										
▪ Age	0.172	0.104	0.153	0.150	0.201	0.058	0.108	0.312	0.093	0.382
▪ Commuting time to hospital	0.068	0.526	0.160	0.133	0.053	0.622	0.192	0.070	0.258	0.014*
<b>II- nurses characteristics:</b>										
▪ Age	0.112	0.293	0.021	0.846	0.257	0.015*	0.214	0.043*	0.159	0.134
▪ Educational level	0.129	0.224	0.092	0.388	0.167	0.115	0.165	0.119	0.210	0.047*
▪ Nurse/patient ratio	0.174	0.102	0.091	0.39	-0.284	0.007**	0.129	0.226	0.153	0.149
▪ years of experience	0.157	0.141	0.047	0.661	0.282	0.007**	0.203	0.054	0.187	0.78

\* Significant at  $P < 0.05$ . \*\* Highly significant at  $P < 0.01$

Table 9: represents correlation between sociodemographic characteristics (family and nurses) and total mean scores of all Met domains. A significant correlation was observed among all family members at the three ICUs in relation to their age and mean score of met information and support needs with  $P = (0.005, 0.033)$  respectively.

As for nurses, a negative significant correlation were observed in relation to their age and met support and proximity needs with  $P = (0.006$  and  $0.001)$ , respectively. Concerning the educational level of the nurses, a negative significant correlation was observed between nurses educational level and met information and support need where  $P = 0.007$  and  $0.00$  and positive significant correlation was observed regarding the met needs of proximity and

assurance with  $P = 0.00$  and  $0.025$ .

Also, negative significant correlation were observed among all nurses in relation to nurses to patient ratio and the met needs of support, proximity and assurance with  $P < 0.05$ . This mean that the increased number of patients for each nurse may affect the patient support, proximity, assurance needs. However a positive significant correlation was observed regarding the met need of information and nurse to patient ratio with  $P = 0.039$ . In addition, negative statistical significant correlations were observed among all nurses in relation to year of experience and met needs of support, proximity and assurance where  $P = 0.009, 0.000$  and  $0.033$  respectively.

**Table 9.** Correlation between sociodemographic characteristics (family and nurses) and total mean scores of all Met domains.

	Information MET		Support MET		Proximity MET		Assurance MET		Comfort MET	
	r	P	r	P	r	P	r	P	r	P
<b>I-Family characteristics</b>										
▪ Age	0.292	0.005**	0.225	0.033*	0.152	0.154	0.009	0.932	0.053	0.622
▪ Commuting time to hospital	0.107	0.316	0.005	0.963	0.087	0.415	0.041	0.700	0.169	0.112
<b>II- nurses characteristics:</b>										
▪ Age	-0.105	0.322	-0.289	0.006**	-0.357	0.001**	-0.206	0.051	0.085	0.426
▪ Educational level	-0.283	0.007*	-0.376	0.00**	0.558	0.00**	0.236	0.025*	0.111	0.299
▪ Nurse/patient ratio	0.218	0.039*	-0.395	0.00**	-0.503	0.00**	-0.379	0.00**	0.019	0.860
▪ years of experience	0.093	0.384	-0.272	0.009**	-0.392	0.00**	-0.224	0.033*	0.042	0.692

\* Significant at  $P < 0.05$ . \*\* Highly significant at  $P < 0.01$

## 5. Discussion

Critical illness has effects on patient' families and threatened their stability and coping ability to deal with the sudden critical situation in ICU [25]. Needs of the family with a relative in ICU has a challenge to healthcare workers especially critical care nurses and doctors. Family members of critically ill patients depend completely on healthcare workers for information about patient's conditions [26]. They have a variety of needs such as proximity, information, support, assurance, and comfort that must be fulfilled to support the critically ill patients [27].

Concerning family members' socio demographic data, this study showed that about one third of participants in anesthesia and medical ICUs aged between 41 to 50 years compared to one third of the sample in neurological ICU

were between 31-40 years. Regarding sex, more than one half of participants in both anesthesia and neurological ICUs were female. This may be interpreted that the female relatives prefer to be around their patients and are the nearest one to give care for them. Freitas et al (2007) [28] reported in their study that most relatives of the patients were women and married.

With regard family relation with their patients, this study reported that one third of them in anesthesia ICU and half of medical one were parents' relation. This result was supported by Kohi et al (2016) [29] who stated that the mean age of the participants was 49.6 years and 10.9 % of them were parents. Also in this study, the majority of family members need more information about patients' diagnosis and Prognosis. This result was in line with Lam and Beaulieu (2004) [30] who stated that, patients' family monitored their patient illness

through asking healthcare professionals about their prognosis. Also, most of family member in three ICUs spent more than 60 minutes distance duration to reach to their patients. The long distance to reach to hospital support the importance of meeting the proximity needs of patients families to decrease their stress.

Regarding sociodemographic data of studied nurses, this study revealed that majority of them was married, females, their age was between 20 to 30 years and had bachelor degree with years of experiences between 1 to 10 years. This result was supported by Agard et al (2007) [31] who stated that years of nurses' experience in ICU ranged from 1 to 22 years. Similarly, Basal and Younis (2017) [32] in a study in Egypt about "Critical Care Nurses' Knowledge, Practice, Obstacles and Helpful Measures Towards Palliative Care for Critically Ill Patients" reported that majority of critical care nurses in medical ICU aged less than 30 years, had bachelor degree and years of experience 5 years or more.

Concerning important needs in the C-CCFNI, the very important informational statement identified by the majority of family members was reported as "to know how the patient was being treated and to talk to the doctor every day. This finding may be attributed that patient's family need to know what happened to their patients and the progress of their condition. This result was agreed with Lam and Beaulieu (2004) [30] who stated that families of critically ill patients want to get information about patient's condition whether it was bad or good. Similarly, Chien et al (2006) [2] showed that most important informational needs reported by family members in their study was to "know exactly what being done for the patient and what and why specific treatment was done".

Regarding Support needs, most of the family members reported that the very important needs were "To have directions regarding what to do at the bedside" and "To talk about the possibility of the patient's death". This result signifies that meeting support needs to the family help them to cope with stressful situation. Similar study was done by Chien et al. (2006) [2] and concluded that nurses must provide informational support to families as soon as possible after patient's admission to ICU.

As for proximity needs, the majority of family members ranked "To be told about transfer plans, to see the patient frequently" and "to be called at home about changes in the patient's condition" as an important needs. This finding could be interpreted that family members want to see their patients frequently even for short period. This finding was in agreement with Hashim and Hussin (2012) [26] they reported that family members ranked "contacted at home when there's changes in patient's condition" as an important proximity need. Also, Davidson (2009) [27], Agard (2007) [31] and Engstrom (2004) [33] found that seeing patients frequently has been identified as one of the important proximity need and patient's family want to be bedside with the patient at all times.

As for assurance domains, the very important needs reported by family members were "to know the prognosis"

and "to have explanations given in terms that are understandable". This result was supported by Auerbach et al (2005) [34] who found that the family members need more information about patient's progress at regular times.

Concerning need for comfort, family members of both anesthesia and neurological ICUs reported that "To feel accepted by the hospital staff" was a very important need. This result is consistent with Johansson et al (2005) [35] they showed that acceptance by health care professionals gives patient's family a sense of comfort. With regard the "MET" needs perceived by the family members, most of the important needs are not always met except some needs were met in little percentage. This may be interpreted that nurses focus only on patients care because of their work load and time constrains to meet the family needs. This finding was concordance by Nolen (2013) [36] who reported that the needs of family members often unnoticed because the primary focus of staff on patients care not family member.

Also, in this study the minority of family members ranked "to know how the patient was being treated" and "to know exactly what was being done for the patient" as important information needs that always met. Also, all family members ranked "To receive information about the patient once a day" as proximity need that always met. In this regard, Davidson (2009) [27] and Hashim and Hussin (2012) [26] concluded that primary information needs of family members of a critically ill patients are left unmet and family members would be grateful if doctors or nurses update them on the patient's condition at least once a day.

Regarding support and assurance needs, minority of family members in the three ICUs stated that "To talk about the possibility of the patient's death", "To know the prognosis" and "To have explanations given in terms that are understandable" as always met. This result was in accordance with Kohi et al (2016) [29] and Kinrade et al (2009) [37] they illustrated that the need for talking about the possibility of patient's death was perceived as the lowest by family members. In addition, up to date and accurate information relating to the patient conditions at regular times reported as very important need that must be met.

Regarding important needs perceived by the studied nurses in three ICUs, this study showed that "To know how the patient was being treated and to talk to the doctor every day" was reported as a very important informational need. This finding was in line with Naderi et al (2013) [38] who concluded that receiving information about patient's condition is the most important needs of patient's families that must be met. However Hashim (2007) [39] stated that nurses may be not willing to give any information about patient's condition as this is against the hospital policy. In addition, the very important items from support needs were "To have directions regarding what to do at the bedside" and "to talk about the possibility of the patient's death". This result was in agreement with Shorofi et al (2016) [14] who found that nurse participants ranked the support needs higher in importance than the families.

In relation to proximity and assurance needs, the very

important items that reported by nurses were "To tell family about transfer plans", "to be called at home about changes in the patient's condition" and "to have visiting hours start on time" and "To have questions answered honestly". This may be interpreted that unscheduled visits of family members cause disruptions during patients' care and doctors' rounds. This was supported by Belio (2011) [40] and Gaeni et al (2015) [41] they reported that nurses ranked "to be told about transfer plans while they are being made" and "to be called at home about changes in the patient's condition" and "to have visiting hours start on time" as an important family needs. As well as Verhaeghe et al (2007) [42] and Morton & Fontaine (2009) [43] concluded that accurate and understandable information help to relieve negative feelings. Also, assurance about the patient's condition gives them a sense of trust.

Concerning comfort needs, minority of nurses ranked "To feel accepted by the hospital staff" as an important needs. This is consistent with Maruti et al (2008) [44] revealed that nurses did not give attention to comfort needs of patient's family. Similarly Shorofi et al (2016) [14] reported that the needs "to feel accepted by the hospital staff", and "to have visiting hours changed for specific conditions" were not given high rankings by nurses. Regarding the needs that always met by nurses, the minority of nurses reported some statement of family needs as always met. This may be attributed that nurses are inadequately prepared by their education or experience to handle families in crisis. Similarly, Acaroglu et al (2008) [45] found that nurses neglected needs of family members and primarily focus on patients' needs. Also, Maxwell et al (2007) [46] observed that although nurses and families ranked some needs as important, nurses considered family needs as insignificant. Moreover, the informational and support needs that ranking as always met by nurses were "To know how the patient was being treated" and "to talk about the possibility of the patient's death". This finding is consistent with Davidson (2009) [27] who noted that nurses fail to predict needs of family members and the need for information and proximity needs are often unmet.

As regard Proximity and Assurance needs that reported by nurses in three ICUs as always met are "To be told about transfer plans" and "To be assured that the best possible care was being given to the patient". This study was in agreement with Bijttebier (2001) [47] and Norris L (2015) [48] they concluded that revealed that nurses and physician underestimated the proximity and assurance needs of the family members of critically ill patients. Furthermore, no items were always met regarding comfort needs. This finding indicates areas of unmet needs that require additional nursing interventions. Similarly Al-Hassan & Hweidi (2004) [49] and Omari (2009) [50] showed that the need for comfort is ranked lower by family members and nurses.

In relation to the total mean scores of both important and met needs domains among studied family and nurses in ICUs, this result represented that the total mean scores of important domain of information, support, proximity, assurance and comfort were higher among family member than nurses, while the total mean scores of met domains were

increased among nurses than family members. In this regard, Bani (2012) [51] concluded that nurses significantly undervalued many of family member's needs that ranked as important need. Similarly Briscoe (2015)[52] found that patients' family had higher mean scores than nurses in ranking the important need of the Assurance, Proximity, Information, and Comfort subscales. On the other hand (Lee & Lau, 2003; Al-Hassan & Hweidi, 2004 & Omari (2009) [49, 50] showed that the need for support is also ranked lower by family members than nurses.

In relation to correlation between sociodemographic characteristics of family and nurses and total mean scores of perceived important domains. The present study showed that there was no significant correlation between age of family members and their ranking for all important domains. On the other hand, significant correlations between nurse's age and educational level and their ranking for important domain of proximity, assurance and comfort needs were observed. Similarly, Gundo (2010)[53] and Bijttebier et al (2000) [54] found in their study that demographic status such as age, gender, socio-economic status and educational level did not influence family members' responses to the need statements and need for information is universal and important for all family members.

Furthermore, a negative significant correlation was observed between nurse to patient ratio and important proximity need. This means that the increased number of patients for each nurse may affect their perception for proximity needs. In addition, a positive and statistical significant correlation was observed among all nurses in relation to years of experience and proximity needs. This finding was congruent with Takman & Severinsson (2005) [55] they concluded that information and predictability were rated highly by nurses with more ICU and professional experience. On the other hand Verhaeghe, et al (2005) [56] observed that nurses' experience in ICU correlates negatively with their ability to assess family needs. However, a study by Moggai et al (2005) [57] showed no relationship between nurses' experience and perceived needs.

Regarding correlation between sociodemographic characteristics of family, nurses and total mean scores of all met domains. The current study showed that a significant correlation between family member's age and mean score of met information and support needs. This indicated that the older the age, the greater the need for informational and support needs. Siah et al (2012) [58] found that there was significant correlation between family members' age and their ranking of met assurance and information need. On the other hand this finding was contradicted with Öttir et al (2011) [59] they concluded that younger family members had a higher mean number of needs than older ones. As for nurses, negative significant correlations were observed in relation to their age, educational level, year of experience and nurses to patient ratio and met of support, proximity, informational and assurance needs. This result is consistent with Davidson (2009) [27] who noted that nurses with higher age fail to predict needs of family members.

## 6. Conclusion

Based on the findings of this study, it can be concluded that most of the important needs perceived by family members in the three ICUs are not always met except some needs were met in little percentage. Nurses and patients' families had ranked higher mean score regarding the information, proximity and assurance needs. Also, the total mean scores of all important domains were higher among family member than nurses, while the total mean scores of met domains were increased among nurses than family members.

## Recommendations of the Study

All critical care nurses work in ICUs need to communicate with the family members in order to meet their needs.

- (1). Critical Care Nurses Should Include Family Members in the Plan of Care To Provide Holistic Approach
- (2). There Should Be In-Service Training Program for Critical Care Nurses
- (3). Critical Care Nursing Curriculum Should Include Holistic Nursing Cares Which Focus on Patients Care and Family Needs

## Limitation

The number of family member in the study is smaller than some of the other studies.

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