

**COMPARISON OF FAMILY MEMBERS' AND NURSES'
SATISFACTION WITH THE CARE IN INTENSIVE CARE
UNITS AT HOSPITAL UNIVERSITI SAINS MALAYSIA**

by

NUR SYAKILAH BINTI CHE MOOD @ MAHYIDDIN

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LIST OF ABBREVIATIONS

APACHE	Acute Physiology and Chronic Health Evaluation
APS	Acute physical score
BP	Blood pressure
CCFNI	Critical Care Family Needs Index
CCFSS	Critical Care Family Satisfaction Survey
CCU	Cardiac Care Unit
CES-D	Centre for Epidemiology Studied Depression Scale
CHB	Caregiver Health Behaviour
CI	Confidence Interval
CICU	Cardiac intensive care unit
EFA	Exploratory factor analysis
FCC	Family-centered care
HDU	High dependency unit
HR	Heart rate
HREC	Human Research Ethics Committee
Hospital USM	Hospital Universiti Sains Malaysia
ICU	Intensive Care Unit
LOS	Length of stay
KMO	Kaiser-Mayer-Olkin test
MAP	Mean atrial pressure
MICU	Medical Intensive Care Unit
MLR	Multiple linear regression
NeuroICU	Neurology Intensive Care Unit
PCA	Principle component analysis
PFCC	Patient-family centered care
PTSD	Post-traumatic stress disorder
RR	Respiration rate
SAPS	Simplified Acute Physiology Score
SD	Standard Deviation
SICU	Surgical Intensive Care Unit
SLR	Simple linear regression
SPSS	Statistical Package for Social Science
WBC	White blood count

LIST OF SYMBOLS

$<$	Less than
%	Percentage
df	Degrees of freedom
F	F distribution , Fisher's F ratio
M	Mean
α	Cronbach 's index of internal consistency
n	Number of cases
b	Regression coefficient
p	p -value
r	Estimate of the Pearson product-moment correlation coefficient
R^2	Multiple correlation squared; measure of strength of association
t	Student's t distribution ; a statistical test based on the Student t distribution ; the sample value of the t-test statistic
χ^2	Chi-square test value
z	z -score
H_0	Null hypothesis
H_A	Alternative hypothesis
σ	standard deviation from the study
Δ	desired level of precision
Z	confidence interval

**PERBANDINGAN KEPUASAN AHLI KELUARGA DAN JURURAWAT
DENGAN PENJAGAAN PESKIT DI UNIT RAWATAN RAPI HOSPITAL
UNIVERSITI SAINS MALAYSIA**

ABSTRAK

Pengenalan: Kepuasan ahli keluarga merupakan ukuran penting dalam menentukan kualiti penjagaan pesakit di kawasan penjagaan kritikal.

Objektif: Tujuan kajian deskriptif ini adalah untuk mengkaji perbezaan kepuasan antara ahli keluarga dan jururawat di Unit Rawatan Rapi, Hospital Universiti Sains Malaysia (Hospital USM).

Kaedah: Data dikumpul daripada 64 ahli keluarga pesakit dan 76 jururawat unit rawatan rapi menggunakan soal selidik yang ditadbir sendiri dari Januari 2013 hingga Jun 2013. Kajian ini mengambil persampelan di tiga tempat iaitu unit rawatan rapi perubatan (MICU), pembedahan unit rawatan rapi (SICU) dan neurologi ICU (NeuroICU). Penyelidik telah menggunakan soal selidik versi Melayu Critical Care Family Satisfaction Survey (CCFSS) yang telah disahkan. Kebolehpercayaan soal selidik ini telah diuji oleh penyelidik dan dianalisis dengan menggunakan Pakej Statistik Untuk Sains Sosial (SPSS). Cronbach's alfa untuk jumlah soal selidik ini adalah 0.91 dan 0.80 -0.87 untuk setiap domain.

Hasil kajian: Skor min bagi kepuasan oleh anggota keluarga masing-masing adalah 20.92 ($SD = 3.22$) dan jururawat 22.02 ($SD = 2.38$). Ini menunjukkan bahawa keluarga pesakit dan jururawat secara umumnya berpuas hati terhadap penjagaan yang diberikan ($p < 0.05$). Walaubagaimanapun, keluarga pesakit dan jururawat mempunyai perbezaan yang signifikan dengan kepuasan terhadap penjagaan pesakit. Perbezaan ini menunjukkan keluarga pesakit dan juga jururawat mempunyai

pandangan yang berbeza terhadap penjagaan pesakit. Keluarga lebih bimbang mengenai kedekatan (*proximity*), diikuti dengan keselesaan (*comfort*), sokongan (*support*), maklumat (*information*) yang diterima dan jaminan (*assurance*). Ini adalah kerana keluarga pesakit akan berpuas hati dengan penjagaan pesakit apabila mereka dapat melawat pesakit dengan lebih kerap dan sentiasa dekat dengan pesakit, dimaklumkan mengenai kemajuan rawatan yang diterima oleh pesakit dan privasi yang diberikan pada waktu melaawat. Walaubagaimanapun, jururawat menilai kepentingan domain kepuasan dengan cara yang berbeza. Jururawat percaya bahawa domain yang penting bagi mereka yang menentukan kepuasan terhadap penjagaan pesakit adalah sokongan (*support*), diikuti dengan maklumat (*information*), keselesaan (*comfort*), kedekatan (*proximity*) and jaminan (*assurance*). Jururawat juga bersetuju bahawa sokongan adalah komponen yang penting dalam menyediakan penjagaan pesakit kerana sokongan dan galakan akan mengurangkan tekanan yang dihadapi dan ia juga akan membantu mereka untuk menghadapi situasi penjagaan yang kritikal. Tempoh masa menunggu dan latar belakang pekerjaan yang berkaitan perubahan perubahan keluarga telah mempengaruhi kepuasan mereka terhadap penjagaan pesakit ($p = 0.010$) dan ($p = 0.006$) masing-masing ($R^2 = 0.22$). Tempoh masa menunggu dan latar belakang pekerjaan yang berkaitan perubahan keluarga juga merupakan faktor prediktor yang mempengaruhi domain kepuasan ahli keluarga: jaminan, maklumat dan skor sokongan ($p < 0.05$) dengan nilai $R^2 = 0.16$, $R^2 = 0.27$ and $R^2 = 0.27$ masing-masing.

Penutup: Penemuan kajian ini menunjukkan bahawa keluarga pesakit dan jururawat berpuas hati dengan rawatan yang diberikan di dalam unit rawaan kritikal dan ia juga menyumbang kepada peningkatan campur tangan yang tidak dipenuhi oleh jururawat dalam memberikan penjagaan terhadap pesakit.

**COMPARISON OF FAMILY MEMBERS' AND NURSES'
SATISFACTION WITH THE CARE IN INTENSIVE CARE UNITS
AT HOSPITAL UNIVERSITI SAINS MALAYSIA**

ABSTRACT

Introduction: Family members' satisfaction is an important measurement in determining the quality of care of patients in the critical care area.

Objective: The purpose of this descriptive research was to examine the difference in satisfaction between family members and nurses in Intensive Care Unit, Hospital Universiti Sains Malaysia (Hospital USM).

Methods: Data were collected from convenience sample of 64 family members and 76 intensive care nurses using self-administered questionnaires from January 2013 until June 2013. The study took place in three places: medical intensive care unit (MICU), surgical intensive care unit (SICU) and Neurological ICU (NeuroICU). Validated Malay version of Critical Care Family Satisfaction Survey (CCFSS) was used. The reliability of the questionnaire was tested by researcher and analysed using Statistical Package for Social Science (SPSS). The Cronbach's alpha of the questionnaire was 0.91 and 0.80-0.87 for each domain.

Results: The mean for the satisfaction scores of family members and nurses were 20.92 ($SD = 3.22$) and 22.02 ($SD = 2.38$) respectively. This indicates that the families and nurses were generally satisfied towards the care provided. However, the family members of critically ill patients and critical care nurses had significance differences in important of satisfaction ($p < 0.05$). In addition, there was also had significance difference in satisfaction domains which were information and support ($p < 0.05$). This differences shows the families and nurses have different view of satisfaction

towards care. The family members more concern about the proximity, followed by comfort, support information and assurance. It is because family members were satisfied with care when they can visit the patient frequently and always near to the patient, to be informed of patient's treatment progress and privacy was given during visiting hours. Nevertheless, the nurses rate the important of satisfaction domain in a different way. The nurses believe that the important of satisfaction domains in providing care were support, followed by information, comfort, proximity and assurance. The nurses agreed that the support was the most important component in providing care because support and encouragement would reduce family members' stress and will help them to cope with the critical care situation. The waiting time duration and health related occupation background of family members were the predictor of family members satisfaction with care ($p = 0.010$) and ($p = 0.006$) respectively ($R^2 = 0.22$). The family members waiting time duration and health related occupation background were also the predictor factors influenced the satisfaction domain: assurance, information and support ($p < 0.05$) with $R^2 = 0.16$, $R^2 = 0.27$ and $R^2 = 0.27$ respectively.

Conclusion: These findings indicate that the family members and nurses were satisfied with the care provided in the critical care unit and it contributes to the improvement of unmet interventions by the nurses during care delivery.

CHAPTER 1

INTRODUCTION

1.1 Introduction

In healthcare settings, satisfaction of the patients and family towards care provided had become crucial elements in providing holistic care. Families might give positive or negative feedback regarding the care provided. This is because they have their own expectations of care for their loved ones and for themselves, including expectations about the end of life (Dodek, Heyland, Rocker, & Cook, 2004). The patient and families expect the healthcare providers to provide high quality of care that exceed their expectations (Coyer, Courtney, & O'Sullivan, 2007). The families are the spokesperson for the patient and they were always available near the patient to give information about the patient to doctors and nurses and receive the information about the patient progress. This information may help the healthcare providers to improve the expectations in creating positive experience for both patient and their family during hospitalization.

1.2 Background of the study

Critically ill patients who are admitted in intensive care unit (ICU) present with life-threatening conditions which requires sophisticated organ support and invasive monitoring, and received long periods of intensive treatment (Bennett & Bion, 1999). Also the outcome of ICU patients can results in death. This situation may result in the family member having to stay for a longer period of time at the hospital until the

patient improves and in a stable condition or till full recovery. Some of the patients may experience organ failure, but they are potentially recoverable (Adudu & Adudu, 2004). The devices used in ICU include invasive equipment and monitoring patient's condition such as blood pressure, cardiac output, pulmonary artery wedge pressure and intracranial pressure (Smith & Nielsen, 1999). The nurses need to monitor the patients 24 hours and chart the patient's progress in the ICU chart depending on their condition. The ratio of the nurse: patient in ICU was 1:2 depending on patient's condition (Bennett & Bion, 1999).

An admission to ICU is considered to be a crisis situation and represent traumatic experience not only for patients but also to family members in dealing with it, because ICU is a stressful and strange place with hostile environment and environmental noise. High noise level is due to the equipment alarms and constant activity which is major contribution to sensory overload for the patients (Adam & Osborne, 2005; Hosmanek & Sole, 2009). Thus, high noise level also will disturb patient's psychology and emotional status. A study agreed that high noise level may decrease the rate of wound healing process, disrupt patient's sleep and decrease oxygen saturation, elevated blood pressure, increase heart and respiration rate among neonatal intensive care patients (Joseph & Ulrich, 2007). Critically ill patients dependent physically and need psychological support when admitted to ICU because of their condition and need closed monitoring and strict treatment regime. Treatment and the intensive care environment contribute stress to the patient (Hosmanek & Sole, 2009). Pain, difficulty communicating, difficulty sleeping, loneliness, physical restraint, thoughts of death and dying were the stressor listed by the patients after discharge from ICU (Hosmanek & Sole, 2009). Hence, the intensive care team members need to minimize the stressor and maximize patients' resting period in

order to reduce stress level by grouping nursing activities and medical procedures together (Hosmanek & Sole, 2009).

Moreover, the long stay in ICU may give a change to family members to adapt with the situation because ICU is an unpredictable situation because of the patient's critical conditions. Long stay give the implications to family members to adapt with the situation such as parental stress which is higher than normal during follow-up periods; stress symptoms and family functioning were normal for 24 hours of hospitalization and become dysfunction two to four weeks after discharge. A study found that the average number of length of stay reported is 11.80 days (Shelton, Moore, Socaris, Gao, & Dowling, 2010) . In addition, the conflict is a normal situation for longer length hospitalization, but it needs to reduce in order to provide better care. Study found that the conflict of life-sustain treatment were communication and families problem in understanding the patient's prognosis (Studdert et al., 2003).

Critical illness often occurs suddenly and there is little time for patient and their family to prepare mentally and physically. The patient was powerless and family members afraid that they might lose the patient (Parker, 1999). Meeting the satisfaction of families of critically ill patients is very important because it help family in dealing with the situation. The satisfaction is subjective and it has different view for individual. Some of individuals just satisfied if the healthcare providers provide precise information they needed. Hosmanek and Sole (2009) agreed that the information given by the healthcare provider and family involvement in critical care had reduce anxiety and build mutual trust. Information such as the update of patient's condition is the important input for family members because it may make patient or families more calm and feel less anxiety. Thus, the healthcare provider should take

part in explaining about the treatment and care honestly. Families play an important role in giving support and participate in taking care of critically ill patient. In critical care situation, not only patients feel stress and anxious with ICU environment but families also feel weird, anxious, fear and other negative emotional thoughts. In order to overcome these situations, the health care team should not only focus on patient-focus approach but also integrated it with family-focused approach. Some study found that family-focused approach is applicable to improve nursing care and the nurses should treat the family members as a client (Potter & Perry, 2009). This shows that family-focus approaches will give the positive outcome for the nursing intervention and care.

1.3 Problem Statements

The identification of family members and nurses satisfaction is an essential first step in the development of high quality of care and provided higher family expectation with care. Family satisfaction would be the fundamentals of evaluation of standard of care because it was an important tool to help the healthcare providers to improve quality of care and patient safety (Brown & Hijazi, 2008).

In contrast, nurses play the role as an agent to convey the information to family members regarding the patient's condition. In conveying the information, the nurses need to have good communication skills and make the families comfortable and can receive the information calmly and openly. Most of the study suggested that the good communication skills of healthcare providers and family members would give meet the family members expectation (Faridah & Rosnani, 2012; Heyland et al., 2002).

Furthermore, the satisfaction of family members and nurses had not been adequately considered. Most of the study focus on family needs and needs met in ICU (Al-Mutair, Plummer, Clerehan, & O'Brien, 2013; Maxwell, Stuenkel, & Saylor, 2007). Up to now, there are only few studies that had been carried out in Malaysia, and no comparison study. Most of the previous studies have been conducted in the west (Al-Mutair et al., 2013; Brown & Hijazi, 2008; Buie, 2012; Roberti & Fitzpatric, 2010).

Hospital Universiti Sains Malaysia is a teaching hospital which provides high quality care. In United State of America, teaching hospital was eliciting very positive public opinions in surveys (Boscarino, 1992) . It is suitable with the hospital mission to explore new areas within patient care services and becoming an excellent medical centre in the provision quality of care and cutting-edge technology (Hospital Universiti Sains Malaysia, 2013). Generally, teaching hospitals provide better care than non-teaching hospital (Ayanian & Weissman, 2002).

According to Medical Record Unit USM, the admission in ICU is increasing. This increasing may have an impact to family members, patients and health care providers in order to give best treatment.

Figure 1.1 presents the ICUs admission which was increasing every year. The increasing pattern happens especially for ward 2 Mutiara, surgical ICU. For ward 2 Delima, admission on 2013 was decrease but this decrease occurs because increasing patient's length of stay 48 days compare to 34 days in 2012 (Figure 1.2).

With this increasing number of admission, the researcher would like to explore the family members and health care providers' satisfaction with the care provided. The researcher believed that there may be relationship between length of stay (LOS) and satisfaction. A study in a Dutch hospital reported only one speciality (pulmonology) indicated the LOS has correlation with patients satisfaction (Borghans, Kleefstra, Kool, & Westert, 2012).

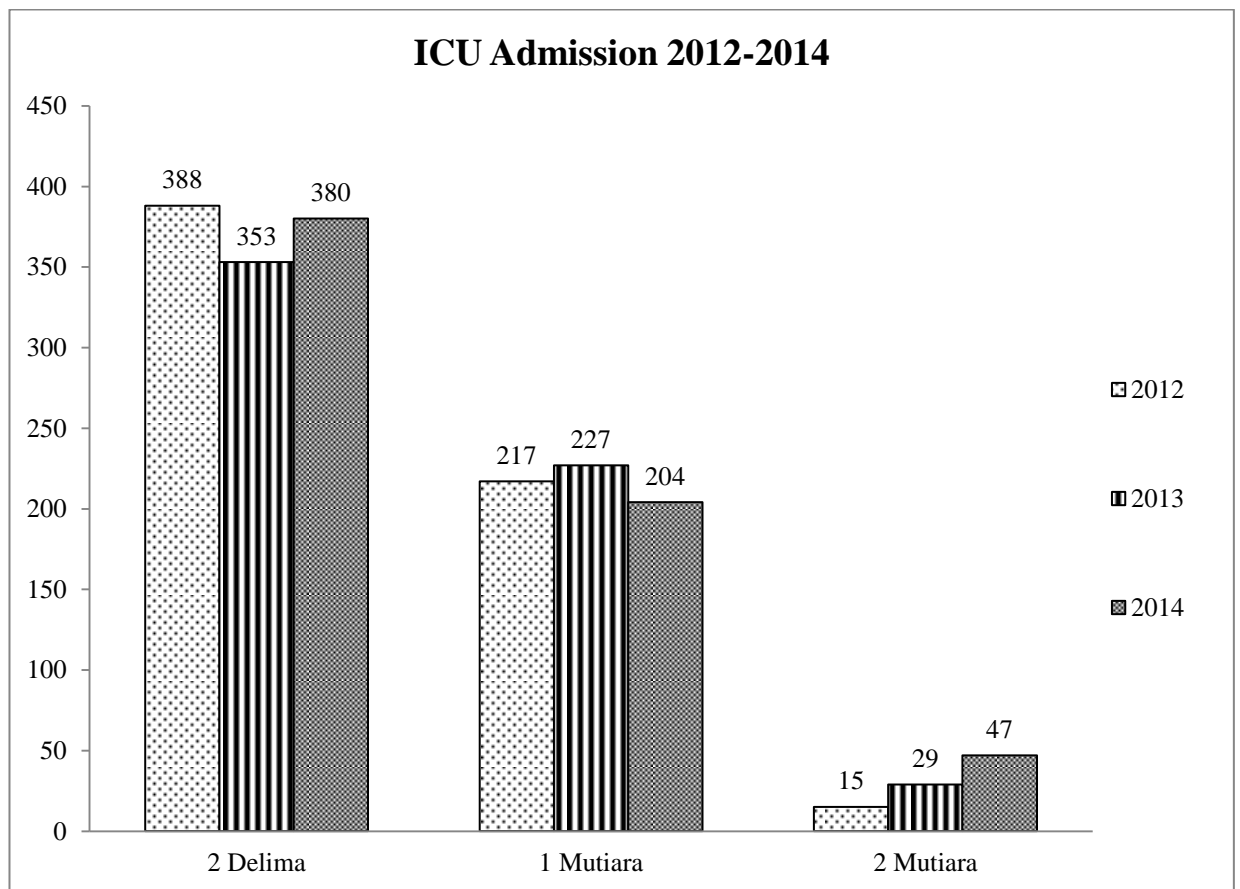


Figure 1.1: ICU admission in ICU for 2012-2014

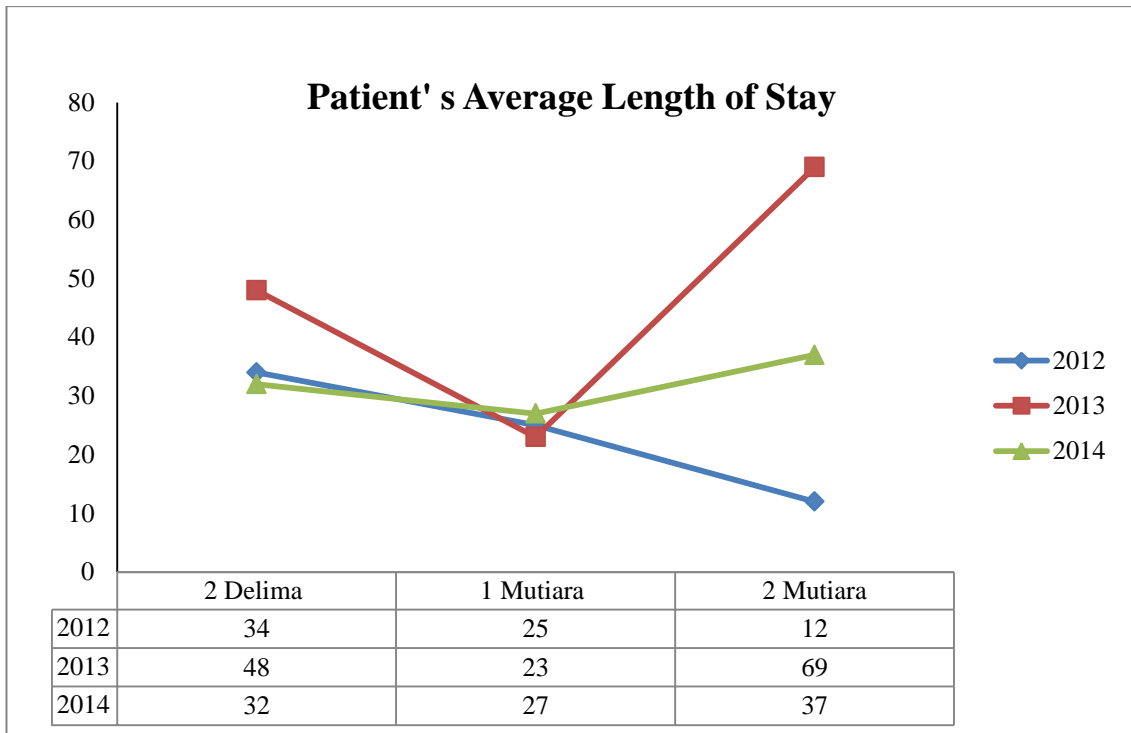


Figure 1.2: Patient's average length of stay

1.4 Objectives of the Study

The aim of the study was to examine the difference in satisfaction between family members and nurses in Intensive Care Unit, Hospital Universiti Sains Malaysia (Hospital USM).

1.4.1 Specific Objectives

1. To identify the demographic characteristics of the family members and nurses.
2. To determine the level of family members' and nurses' satisfaction towards care in ICU, Hospital USM.

3. To compare the differences in satisfaction towards care of family members of critically ill patients and nurses perception in each item, total of five subscales and individual subscales (assurance, information, proximity, support and comfort)
4. To determine the association between the family members satisfaction with care and socio-demographic (age, gender, race, education level, occupation, relationship with patient, waiting time duration and health care occupation background).
5. To determine the association between the nurses satisfaction with care and socio-demographic (age, gender, education level, ICU post basic, ICU working experience and experience taking care of family member admitted in ICU).

1.4.2 Research Questions

1. What are the demographic characteristics of the family members and nurses?
2. What is the family members' and nurses satisfaction level during a patient's hospitalization in ICU, Hospital USM?
3. What differences of satisfaction towards care between the family members and nurses' perception?
4. Is there any association between family members' satisfaction score towards care and socio-demographic (age, gender, race, education level, occupation, relationship with patient, waiting time duration and health care occupation background).

5. Is there any association between nurses' satisfaction score towards care and socio-demographic (age, gender, education level, ICU post basic ICU working experience and experience taking care of family member admitted in ICU)

1.4.3 Hypothesis

1. H_01 : There is no difference on each item of satisfaction and satisfaction score between families and nurses satisfaction in each item, total five subscales and individual subscale.

$H_A 1$: There is a difference on each item of satisfaction and satisfaction score between families and nurses satisfaction in each item, total five subscales and individual subscale.

2. H_02 : There is no association between families satisfaction score and its domain, and socio-demographic (age, gender, race, education level, occupation, relationship with patient, waiting time duration and health care occupation background).

H_A2 : There is an association between families satisfaction score and its domain, and socio-demographic (age, gender, race, education level, occupation, relationship with patient, waiting time duration and health care occupation background).

3. H_03 : There is no association between the nurses' satisfaction score and its domain, and socio-demographic (age, gender, education level, ICU post basic ICU working experience and experience taking care of family member admitted in ICU).

H_A3 : There is an association between the nurses' satisfaction score and its domain, and socio-demographic (age, gender, education level, ICU post basic ICU working experience and experience taking care of family member admitted in ICU).

1.5 Operational Definitions

1.5.1 Families Satisfaction towards Care

According to Fox-Wasylyshyn, El-Masri, and Williamson (2005), families satisfaction with care means fulfilling the needs and expectations of the family members whilst their loved ones are admitted into ICU due to a critical illness. Families satisfaction with care in this study refers to those perceive immediate needs of assurance, information, proximity, support and comfort identified by families during 24-72 hours of patient's hospitalization measured using Critical Care Family Satisfaction Survey (CCFSS).

1.5.2 Family members

Family members of critically ill patient refers to adult (age at least 18 years old or older), related to patients by blood, marriage or adoption as a significant other who is available during the period 24 to 72 hours after the admission to ICU.

1.5.3 Intensive Care Unit (ICU)

Intensive care unit is the unit that admit patients with life-threatening conditions which cover three ICU which are medical ICU, surgical ICU and neurological ICU at Hospital USM.

1.5.4 Nurses Satisfaction towards Care

Nurses' satisfaction towards care in intensive care refers to a nurse's perceived family's satisfaction with care during 24-72 hours of patient's hospitalization. Nurses' satisfaction towards care was measured using adapted Critical Care Family Satisfaction Survey (CCFSS).

1.6 Significance of the Study

These findings provide base line information regarding families' satisfaction towards care in improving nursing care in ICU. The proposed study can provide information that contributes to nursing practice, nursing education, nursing administration and the development of nursing research.

1.6.1 Nursing practice

Most of the healthcare providers practiced patient-centered in delivery care which only focuses on patient's care to give positive outcome. Different healthcare setting may deliver different concept of the patient-centered care approaches. For example, in primary care setting, the patients prefer three important domains in patient centeredness which were communication, partnership and healthcare promotion (Little et al., 2001). In addition, communication plays an important role in satisfaction measurement. Study has been reported that emphatic communication, listening and immediacy used by healthcare providers give a greater satisfaction (Wanzer, Booth-Butterfield, & Gruber, 2004). Therefore, family-centered care was applied recently in neonatal ICU in order to give the best service and care. Potter and Perry (2009) believed that family-focused approach is applicable to improve nursing care and the nurses should treat the family members as a client and it will give the positive outcome for the nursing intervention and care. The researcher had identified that the application of both patient-centered care and family-centered care (FCC) in ICU was applicable and might give a positive outcome and increase the satisfaction level.

1.6.2 Nursing education

The evolution of nursing education can be evolved through teaching the nurses to give the best service by including family in planning of care.

1.6.3 Nursing administration

In future, the administration nurse may develop new method or approach in ICU to give comfort, support, and information to the family members. The process of caring of patient will change according to the times.

1.6.4 Nursing research

The findings will help to expand the study method and sampling to improve quality of care. In addition, it will contribute to more research conducted in order to upgrade the nursing service to the client.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The reviews of the literature in this study include the impacts of ICU admission, improving quality of care in ICU and family satisfaction with care and theoretical framework.

2.2 The impacts of ICU admission

There are many impacts of ICU admission such as impact on critically ill patients, impact on ICU environment, impact on healthcare providers' role, impact on communication in ICU, impact on family members' role and impact on families' psychology.

2.2.1 Impact on critically ill patients

Intensive care unit (ICU) is a special unit in a hospital that looks after patients with critical conditions and requiring sophisticated organ support and invasive monitoring (Manacci, 2012). However, in critical conditions, the patients may experience organ failure, but they are potentially recoverable (Adudu & Adudu, 2004). The monitoring devices used including invasive equipment which are inserted into the patient's body to monitor the patients' condition such as blood pressure, cardiac output, pulmonary artery wedge pressure and intracranial pressure.

Tong, Tai, Tan, Ahmad Shaltut, and Lim (2012) record that, the direct admission had increased from 9% in 2004 to 24% in 2010 and the total admission in 2010 is 26,997. These values are high and keep increasing over the years from 2009 to 2010 about 27%. The highest ethnic group admission was Malay 55.6%. According to Tong et al. (2012), the crude mortality rate in ICU was 20.9% in 2010 and in hospital the rate was 28.1% in 2010.

Most of the patients admitted in the ICU were in severe condition. The most commonly used scoring systems are Acute Physiology and Chronic Health Evaluation II (APACHE II) and Simplified Acute Physiology Score (SAPS) which were used to estimate risk based on data available within the first 24 hours of ICU stay (Knaus, Draper, Wagner, & Zimmerman, 1985; Le Gall, Lemeshow, & Saulnier, 1993). In APACHE II, total scoring includes an assessment of three aspects of a patient's condition; acute physiological score (APS), chronic health status and age (Chen, Wei, Sang, & Tang, 2004). APS assessment requires measurement of 12 physiological parameters within 24 hours after ICU admission, and involves the cardiovascular system (blood pressure, heart rate), respiratory system (respiration rate, alveolar–arterial oxygen gradient), electrolytes and biochemistry system (sodium, potassium and creatinine), blood system (haematocrit, white blood cell count), body temperature, and conscious status (the difference between 15 and the patient's Glasgow coma scale) (Chen et al., 2004).

The study found that the APACHE II mean 15.55($SD = 8.40$) in 86 intensive care unit in Spain (Castillo-Lorente, Rivera-Fernandez, Rodriguez-Elvira, & Vazquez-Mata, 2000). However, another study found that the APACHE II mean score in teaching hospital in Hamilton, Ontario was 21.8($SD = 9.2$) (Donahue et al., 2009). The difference value mean of APACHE score between these two studied

because of different population setting and different management in treating critical care patients.

The APACHE II score was very important as a reference for aggressive treatment (Chen et al., 2004).

2.2.2 Impact on ICU environment

An admission to ICU turns to be a crisis situation and traumatic experience for the patients and families in dealing with it. This is because of ICU is a stressful and strange place with hostile environment and environmental noise. According to research, high noise level is due to the equipment alarms and constant activity which is major contribution to sensory overload for the patients (Adam & Osborne, 2005; Hosmanek & Sole, 2009). High noise level will disturb patient's psychology and emotional status. The noise does not come from the machine only but the conversation of staffs also may affect the noise level. In order to promote rest, the nurse may reduce lights and noise by not having loud conversations near patient and by closing the patient's room door if it safe to do so (Manacci, 2012). Surprisingly, study found that high noise level may decrease the rate of wound healing process, disrupt patient's sleep and decrease oxygen saturation, elevated blood pressure, increase heart and respiration rate among neonatal intensive care patients (Joseph & Ulrich, 2007).

Majority of intensive care patients receive long inclusive treatment and length of stay was long. The days of staying in ICU are unpredictable and the study found that the average number of length of stay reported is 11.80 days (Shelton et al., 2010) . Hosmanek and Sole (2009) agreed that the treatment received by patient's

and the intensive care environment would contribute stress to the patient. There are many stressor experiences by patients during ICU admission. The patients had listed some of the stressor they experienced during the admission such as pain, difficulty in communicating, difficulty sleeping, loneliness, physical restraint, thoughts of death and dying (Hosmanek & Sole, 2009). The stress conditions need to minimize by healthcare staffs in order to promote patient's rest. The intensive care team members need to maximize patients' resting period in order to reduce stress level by grouping nursing activities and medical procedures together (Hosmanek & Sole, 2009).

2.2.3 Impact on healthcare providers

All healthcare providers play their role respectively but the nurses are the core person in taking care and dealing with the patients in 24 hours. Nurses are the person taking care of the patients and the first line defense for any problem to deal. Potter and Perry (2009) state that the primary role of the nurses is caring and it includes providing presence, touch, listening, spiritual caring, knowing the client and family care. However, the nurses in ICU may have an extra characteristic because they are dealing with critically ill patients. For instance, the nurse is responsible to give information to the right person and give support to the relatives (Pearce, 2005). Besides that, the nurse is also responsible to give the latest update of patient's condition, finding out if the relatives need more information and what they know, calm the relatives and remind them to eat and suggest them to take fresh air while waiting for the admission process (Pearce, 2005). Pearce (2005) stressed that the liaison nurse has to accompany relatives in family meeting with physician and afterwards they should feel free to answer any follow-up questions, checking the

relatives understanding level and keeping up-to-date the patient's progress. Thus, nurses play a critical role in determining efficiency, effectiveness and sustainability of healthcare system (Maslash, Schaufeli, & Leiter, 2001).

Feeling safe and getting information are primary and reciprocal needs of critically ill patients and family members (Hosmanek & Sole, 2009). Information such as the update of patient's condition will make patient or family members calm and result in positive outcome. Why is that so the information was the important need for family members? When family members received clarification from the staff, they would figure out what will happen to their loves one and will prepare their emotion if anything bad happen. According to Hosmanek and Sole (2009), the information given by the healthcare provider and family involvement in critical care had reduce anxiety and build mutual trust. Thus, the healthcare provider should take part in explaining about the treatment and care honestly. Trust and honesty in giving information may help the family members stop blaming others. Some qualitative studies found that the families need information regarding the patient's conditions and outcomes (Fry & Warren, 2007).

If the family members were not informed of the prognosis, they would feel frustrated and freighted (Fry & Warren, 2007). The information conveyed by the healthcare staff need a good communication skill. It is because, good communication skill will help the family members understand the information given. Thus, the communication between healthcare providers and family members play an important role because family members hope that the physicians would include them in the discussion about their loved one (Henrich et al., 2011). Furthermore,(Fry & Warren, 2007) came out with professional trust theme which means the supporting interaction of the healthcare providers and families are the aspect of trust. Families trust the

healthcare providers in giving treatment to their loved one. It is interested to know the family satisfaction of staff support.

In addition, the study found by Azoulay et al. (2009) there were conflicts exist between staff and patients/relatives, such as in patient transfer to another ICU or to a ward (13.5% versus 7.5%, $p < 0.0001$), initiation of an ICU working group (48.3% versus 42.7%, $p < 0.0004$), limitation of visiting hours for the relatives (39.1% versus 25.9%, $p < 0.0001$), intensified communication with the relatives (80.6% versus 67.1%, $p < 0.0001$), or legal action (16.3% versus 9.8%, $p < 0.0001$). These conflicts may give harmful situation in ICU.

2.2.4 Impact on communication in ICU

Care of patients in ICU not only compress of modern, excellent medical treatment and comprehensive nursing care but also good communication and relations with the health care team. Good communication is an important skill for healthcare provider to master because it will help them in giving information to the family members about the patient's progress. The information given by the healthcare team is important source for the families for making decision as surrogates for ICU patients and it is also one of the family needs (Jacobowski, Girard, Mulder, & Ely, 2010). In addition, the communication and interpersonal skills are very useful when the critically ill patient conditions become life-threatening and end-of-life stage, the family members become anxious and distress and they need someone to talk and express their feelings. Communication between the family and health care provider is very important and family will get the correct information about the patient. According to research, the periodic communication in sharing the

progression of the patient and decision making will decrease the stress and help families to cope with the unpredictable situation (Davidson et al., 2007). It is because this periodic communication help family members to get together and discuss together for the patient's good of sake.

2.2.5 Impact on family members' role

Family members play a significant role in giving support and participate in taking care of family member in critically ill. Bellou and Gerogianni (2007) agreed that the patients able to receive psychological and emotional support from family which it is the effective way to give support. In addition, the prospective cohort study also found that the survived patients required caregiver support with proportion 74.8% (Im, Belle, Schulz, Mendelsohn, & Chelluri, 2004). It shows the power of support system among family members. The higher family ties the stronger family strength. Therefore, the healthcare providers are advisable to maintain contact with parents and relatives of the patients continuously, and provide appropriate information to them regarding their patient's condition and the progress of the therapeutic programme (Bellou & Gerogianni, 2007). When family support was achieved, is easier to the family members to make a decision regarding the treatment.

Bellou and Gerogianni (2007) claim that the patients with chronic diseases really need family support in order to maintain their quality of life. Thus, in giving support to patients, the family member has to sacrifice their time in taking care patient. According to Im et al. (2004), 33 caregivers (28.7%) were working and 30.3% had sacrificed by reducing working time to provide care to the patient. However, in globalization world may change the family's role in taking care of

patient. A study had been conducted in Korea to examine the family as caregiver and paid caregiver during hospitalization. The result of the study had shown that 87% of the patients need caregivers and family members were the primary caregivers whereas only 3% of patients used private paid caregivers (Cho & Kim, 2006). Furthermore, Cho and Kim (2006) had suggested that the new policy should be implemented to reduce caregiver burden at institutional and national level.

2.2.6 Impact on families' psychology

Families often feel fear, increase anxiety and inconvenient in the ICU environment. Furthermore, patients are dependent physically and need psychological support when admitted to ICU because of their condition which needs closed monitoring and strict treatment regime. A study had been conducted at surgical trauma ICU of the Virginia Commonwealth University Health System to assess satisfaction with needs met signs and symptoms of acute stress disorder, healthcare interpersonal perception, optimism level and its relationships. Auerbach, Kiesler, Wartella, and Rausch (2005) had concluded that most of the family members who had trauma experience may develop emotional distress (Auerbach et al., 2005). According to Auerbach et al. (2005) result of study, it showed that the acute stress disorder had elevated during the short time of admission however, it decrease after discharge (Auerbach et al., 2005). Similarly, other study in stress and coping strategies of Hong Kong Chinese families during critical illness among 133 participants found that the family members had experienced high level of stress ($M = 25.1, SD = 8.3$) and female had high stress ($t = -4.6; df = 1, 131; p = 0.00$) with lower educational achievement ($F = 3.0; df = 2, 130; p = 0.05$) and those whose

relatives were suddenly admitted to ICU ($t = -2.2$; $df = 1$; $p = 0.03$) (Chui & Chan, 2007). The lower education achievement may affect their adaptation with the critical situation and need information in lay person language. If they do not understand what the healthcare staff told them, how they could react and it is hard to them to make decision. In other study, O'Farrell, Murray, and Hotz (2000), had examined the psychological distress of wives of cardiac patients and 66% of the participants experienced profound level of emotional distress. Furthermore, the other found that the mean anxiety level was 45.41 ($SD = 15.27$) and female participant score high mean anxiety level ($M = 46.58$; $SD = 16.17$) compared to male participant ($M = 39.80$; $SD = 8.98$). This study includes 29 family members of medical-surgical intensive care unit, teaching hospital in Montreal, Quebec, Canada. The female participants had high anxiety level may be because they think a lot rather than male.

Recent study had discovered the association between family caregivers' health risk behaviours and patients' care needs, caregivers' depressive symptoms and burden by using Caregiver Health Behaviour (CHB) instrument and short version of Centre for Epidemiology Studied Depression Scale (CES-D). The results show that 90% of the caregivers had high risk for clinical depression and 94% had one or more health risk behaviour such as insufficient rest (70%) and exercise (76%) and skipping meals (62%) (Choi et al., 2013). Insufficient rest give the bigger health risk behaviour to get depression because the body regulation was imbalance and it affects entire body physiology.

Family involvement in taking care of patient will help the process of healing. The family members sometimes give strength and support to critically ill patient. The cooperation between the family members also may promote patient's healing

process. It is because the soul interaction between the family members and patient during caring process.

2.3 Improving quality of care in ICU

In order to overcome the gap between families, healthcare providers and patients, the health care team should integrated patient-focused and family-focused approach. Potter and Perry (2009) believed that family-focused approach is applicable to improve nursing care and the nurses should treat the family members as a client and it will give the positive outcome for the nursing intervention and care.

There are many interventions developed to help family deal with the critical care environment which is a stressful place such as family centered care and family support group. The difficult experienced of family's in dealing with intensive care situation and the study had formed the family-centered care concept to help family members cope with critical care situation (Azoulay & Sprung, 2004). Leske (2002) found that a primary nurse had a role to identify and contact family spokesperson and promoting access to the patient and keeping in contact with the family. These explained the importance of initiating the interventions on first contact with the family, continuing the interventions throughout the critical care period, and past discharge from the intensive care unit. In the other hand, Pearce (2005) had recommended to implement liaison of nurses who were responsible for the family. The liaison nurses are appointed for two months at a time and they are responsible to present with the family during doctor and family meetings, answered questions and arranged visiting times (Pearce, 2005). The liaison nurse also is one of the methods

that improve ICU service which make the family and nurses have mutual understanding and support each other.

De Jong and Beatty (2000) suggested that the differences in the interventions on family members was helpful but different approach used for different age group of the family members. This difference may happen because of older groups have long relationship with patient and different emotional control. The study had observed the area of support provided to the family including emotional support, appraisal support, informational support and instrumental support (De Jong & Beatty, 2000). These supports are very important to help the family received full support from the healthcare providers and they will cope with the situation. Furthermore, De Jong and Beatty (2000) study also found that the most important interventions for families is related to informational support such as notifying appropriate persons if the condition changed, explaining what was being done to the patient, allowing time to visit the patient and answering questions. Spouses and adult children group were ranked the importance of support but the spouses had significant more frequent support in four areas of support than adult children ($F = 4.78$, $p = 0.033$) (De Jong & Beatty, 2000). Thus, it suggest that family members have the same needs, regardless of age (De Jong & Beatty, 2000). Therefore, the care delivery services has to improve in order to make the critical care area become responsive unit and it accepted by Oermann and Huber (1999) which mentioned that the patient outcomes had influence patient health status and it reflect the care delivery services. It shows that the care delivery services play an important outcome for the patient's health progression. Therefore, the hospital or unit should provide the best services expected by the patients and family members.