

Family Satisfaction with Intensive Care Services: A Survey from Three Tertiary Hospital Units

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Abstract

Objectives: We aimed to investigate the level of family satisfaction in three intensive care units (ICUs) in a tertiary hospital in the United Arab Emirates, which is a multicultural society. **Methods:** This was a cross-sectional study. Family members of patients who were admitted to the ICU for more than 48 h were included in the study. Families were approached with a validated FS24-ICU Family Satisfaction Survey Questionnaire. One hundred questionnaires were collected over 3 months from January 1, 2016, to March 31, 2016, in the pediatric medical-surgical and cardiac, adult cardiac, and adult medical/surgical ICUs. **Results:** The overall level of satisfaction measured as total satisfaction score, medical care score, and decision-making score were 75.1 ± 14.2 , 80.1 ± 18.6 , and 68.1 ± 11.5 , respectively. These results are comparable to other high-income and developed countries. **Conclusions:** This is the very first study from the UAE demonstrating a high level of patient family satisfaction in both adult and pediatric ICUs. This study also highlighted areas where further improvement needs to occur.

Keywords: Care, communication, environment, family satisfaction, intensive care units, United Arab Emirates

INTRODUCTION

Critical illness has a significant impact on family members.^[1] Family members often receive crucial and complex medical information about their loved ones and stressful decision-making often falls on the family members, which adds further distress to the families.^[2] They often also face the additional burden in caring for patients discharged from the intensive care unit (ICU) as over 50% of critical care survivors have significant disability. Consequently, family members of critically ill patients experience a cluster of psychological complications referred to as postintensive care syndrome family.^[3] Prevalence estimates for clinically relevant posttraumatic stress symptoms in family members of the general ICU population widely range with a median point prevalence of 21%.^[4-8] Highest prevalence rates for posttraumatic stress symptoms in family members of adult general ICU patients have been shown 3 and 6 months following ICU stay.^[4,9]

Besides the emotional distress, there are also social and financial consequences. Families left with long-term psychosocial effects put pressure on the society due to their marked inability to adjust and contribute to the community

effectively. Poor communication between health-care providers and the families has been shown to be one of the main contributing factors to the development of this syndrome.^[10] Effective communication with families has been shown to reduce long-term psychological effects on the family members as well as patients following discharge from hospital.^[11]

Numerous studies have emphasized the importance of communications between the care provider and families. Longer duration of communication between the intensive care team and families has been shown to improve relatives' anxiety.^[12] When communicating with families, family member's thoughts, acknowledgment of emotions and feelings, and ability to listen and understand the value of the patient to the family must be taken into consideration. Lastly, to

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ensure comprehensive family understanding of the condition, management plan and prognosis well, questions from families should be actively elicited. With this approach, the incidence of symptoms of anxiety, posttraumatic stress disorders, and depression has been reported to be low.^[4]

Family satisfaction with care experience is an integral measure of ICU quality. Patients in the ICU have limited or no ability to provide feedback regarding the care received either due to their baseline illness or due to the effect of medications. Hence, family members act as surrogates for patients during their stay in the ICU.^[1] Studies on family satisfaction with regard to care of terminally ill patients emphasize good communication, frequent access to the treating team, and better pain control as a good predictor of satisfaction and high quality of care.^[13] Families of the critically ill have core needs and expectations from health-care providers in the ICU.^[8] Family satisfaction is higher when health-care providers explain and focus their discussion on the following key elements: pain and agitation management, providing detailed information regarding diagnoses, expectations, day-to-day management plan, and prognosis.^[14] Additional information such as local practices, visiting hours in the ICU, and patient rights and responsibilities have also been shown to contribute to improved satisfaction levels.^[15] Most importantly, families need to be reassured that the hospital has appropriately trained staff, equipment, and support to look after their loved ones. In addition to providing emotional support, hope, reassurance, and being able to remain in the vicinity of the patient are essential to family satisfaction.^[16]

Tremendous progress in health care in the UAE has been made over the last two decades. Although patient and family satisfaction is important key performance indicators for hospitals, there is a lack of published data on ICU patient family satisfaction and its management in the UAE.

METHODS

Hypothesis and objectives

The principal research hypothesis of this project is that the overall and subscale scores (e.g., care and decision-making) for family satisfaction will be higher than other developing countries in the region and globally but lower than high-income developed countries. The secondary research hypothesis is that patient and family factors will be associated with family satisfaction scores. The primary aim of this study is to assess the level of family satisfaction across three ICUs of a tertiary governmental hospital in the UAE. The secondary aim was to compare family satisfaction level and hospital performance with international standards and identify factors independently associated with higher family satisfaction.

Design and settings

This was a cross-sectional design in three ICUs in a tertiary care hospital. The study was conducted in a governmental tertiary hospital with 568 acute-care beds and is the regional center for many subspecialties; its total highest Level

1 (SCCM designation)^[17] intensive care bed capacity is 66. The hospital is one of the 15 health-care facilities and more than 55 ambulatory and primary health-care clinics in the Emirate of Abu Dhabi (UAE) that are owned and operated by the Abu Dhabi Health Services Company (SEHA). The study was conducted throughout 3 months from January 2016 to March 2016 in three main ICU units: cardiac and transplant ICU, pediatric ICU, and general medical/surgical ICU with a bed capacity of 10, 27, and 29, respectively. Each unit has a dedicated team that provides 24/7 coverage and consists of consultants, specialist staff, and residents. Residents are adequately supervised, and all communications with the patients and family are conducted either by consultants or specialists. The team meets all families upon admission where a detailed verbal communication is performed and information is provided on the following: medical condition of the patient, ICU information leaflet, visiting hours, contact details, and infection control practices. Most of the verbal communications with the families occur during the day at the time of visiting hours. Dedicated time is allocated for family meetings in each of the units, and families are contacted by the ward clerk in advance regarding the meeting. Majority of the communications are conducted in a quiet environment, and each of the units has a dedicated conference room for this purpose. Subsequently, the treating physician or a nurse provides regular updates on a daily basis at the bedside. If a detailed meeting is deemed necessary, a formal meeting similar to the one conducted upon admission is arranged. With extended nature of family culture in the UAE, information is only provided to the immediate next of kin whose names are documented on an admission form. Routinely team leader (consultant), treating physician, bedside nurse, or charge nurse attends the initial and subsequent formal meeting. Patient relation officer (PRO), translators, social workers, physicians from other departments, and case coordinators are involved where appropriate.

Inclusion criteria

Family members of patients who had been admitted to the ICU for more than 48 h and above were included in the study. This period (48 h and above) gave the families enough exposure to the ICU atmosphere and interaction with staff. The family member who participated in the study was the next of kin and was responsible for decision-making with regard to the care of their loved ones.

Data collection and ethics

Families were approached with the FS24-ICU Family Satisfaction Survey Questionnaire either by PRO or by staff from the volunteer department. None of the personnel involved in conducting the survey were directly involved in patient care. The FS24-ICU questionnaire is a reliable and validated tool for measuring family satisfaction in the ICUs.^[11] The full questionnaire with instructions for researchers is available online (<http://www.thecarenet.ca>). The FS24-ICU is a 24-item questionnaire with 14 items assessing the satisfaction of care, including two questions on the quality of care and frequency

of communication with family members. The remaining ten items evaluate satisfaction with decision-making including frequency, honesty, completeness, and consistency of information provided to family members and participation of family members in decision-making. Each question is answered on a 5-point Likert scale that corresponds to a percentage score, i.e., “excellent or completely satisfied”: 5 = 100%, “very good or very satisfied”; 4 = 75%, “good or mostly satisfied”; 3 = 50%, “poor or slightly dissatisfied”; 2 = 25% and “very poor or very dissatisfied”; and 1 = 0% (N/A items are excluded). The score for total/overall satisfaction (24 items) and subscale score satisfaction with care (14 items) and decision-making (10 items) were calculated by averaging the available items. Total and subscale scores range from 0% to 100%.

RESULTS

Sample descriptive

One hundred (50 females; mean age \pm standard deviation [SD], 36.7 ± 10.4 years) family members of 100 patients (40 females; mean age \pm SD, 45.8 ± 3.2 years; 54% UAE national; 46% expatriate) admitted to ICU units (adult general 53%; adult cardiothoracic 20%; pediatric 27%) during the study period were included in the analysis [Table 1]. The majority (77%) of family members reported living with the patient. They were predominantly offspring (45%) or parents (27%) of the patient [Table 1].

Internal consistency of the family satisfaction scale in this sample

Cronbach's alpha coefficients (internal consistency) were 0.89, 0.87, and 0.77 for the 24-item questionnaire and the 14-item care and 10-item decision-making subscales. Overall, the instrument showed good internal consistency within our sample of UAE nationals and expatriate family members.

Family satisfaction

Care sub-scale

Male members of the family (e.g., brother, father, son, and husband) demonstrated higher levels of satisfaction with care (>80%) compared to female counterparts (e.g., daughter, mother, sister, or wife) (<80%). Families visiting UAE national patients experienced a higher level of satisfaction (82.2) compared to expatriate family members (77.5%), and this was higher in an adult cardiothoracic unit (83.5%) compared to pediatric (79.2%) and adult general ICU (79.2) [Table 2]. Wives (67.3%) reported the lowest and sons (83.8%) reported the highest level of care satisfaction across all ICU units [Table 2]. Subgroup analysis revealed that daughters and sons (81.9%) reported the highest levels of satisfaction with care compared to brothers, cousins, husbands, sisters, and wives (70.9%) [Table 2]. There were no significant differences ($P > 0.05$) in the mean score for care satisfaction between gender, nationality, ICU unit, or relationship to the patient [Table 2].

Table 1: Characteristics of all patients and family respondents ($n=100$)

| Variables | Patients | Family |
|---|----------------|-----------------|
| Age (years), mean \pm SD | 45.8 \pm 3.2 | 36.7 \pm 10.4 |
| Gender, n (%) | | |
| Male | 60 (60.0) | 50 (50.0) |
| Female | 40 (40.0) | 50 (50.0) |
| Nationality, n (%) | | |
| UAE National | 54 (54.0) | |
| Expatriate | 46 (46.0) | |
| Previous admission, n (%) | | |
| Yes | 45 (45.0) | |
| No | 55 (55.0) | |
| ICU unit, n (%) | | |
| Adult | 53 (53.0) | |
| Adult cardiothoracic | 20 (20.0) | |
| Pediatric | 27 (27.0) | |
| Relationship to patient, n (%) | | |
| Wife | | 4 (4.0) |
| Mother | | 17 (17.0) |
| Daughter | | 20 (20.0) |
| Husband | | 2 (2.0) |
| Father | | 10 (10.0) |
| Son | | 25 (25.0) |
| Sister | | 7 (7.0) |
| Brother | | 7 (7.0) |
| Other | | 8 (8.0) |
| Live with patient, n (%) | | |
| Yes | | 77 (77.0) |
| No | | 23 (23.0) |
| The frequency of seeing patient (if not living together), n (%) | | |
| More than weekly | | 8 (34.8) |
| Weekly | | 10 (43.5) |
| Monthly | | 4 (17.4) |
| Yearly | | 1 (4.3) |
| Living location of family member, n (%) | | |
| In city near hospital | | 49 (49.0) |
| Out of town | | 51 (51.0) |

ICU: Intensive care unit, SD: Standard deviation

Decision-making sub-scale

There was no difference in the perception of involvement in decision-making between male or female family members visiting a UAE national or expatriate patient [Table 2]. Self-reported participation in decision-making was highest among family members visiting patients in the cardiothoracic unit (70.5%) and lowest among family members visiting a patient in the pediatric unit (66.1%) [Table 2]. Sons (72.1%) and brothers (69.3%) reported the highest and other family members (e.g., cousins; 63.1%), wives (64.4%), and husbands (65.0%) reported the lowest involvement in decision-making [Table 2]. Subgroup analysis revealed that daughters and sons (70.6%) reported the highest levels of perceived involvement in decision rated to patient care compared to fathers and mothers who reported

the lowest (65.9%) [Table 2]. There were no significant differences ($P > 0.05$) in the mean score for perceived involvement in decision-making between gender, nationality, ICU unit, or relationship to the patient.

Total satisfaction

Family members that were female relatives (e.g., mother, sister, and wife) or cousins but not daughters visiting an expatriate patient in the pediatric unit reported lower levels of total satisfaction with care (all $<75.0\%$) compared to male relatives (e.g., brother, father, and son) or daughters visiting a UAE national patient in the cardiothoracic ICU (all $>75.0\%$) [Table 2]. Sons (78.9%) reported the highest and wives (65.7%) reported the lowest levels of overall satisfaction with care [Table 2]. Subgroup analysis revealed that brothers, cousins, husbands, sisters, and wives (72.9%) reported the lowest levels of overall satisfaction with care compared to daughters and sons (77.2%) who reported the highest [Table 2]. There were no significant differences ($P > 0.05$) in the mean score for overall care satisfaction between gender, nationality, ICU unit, or relationship to the patient.

Discussion

This is the first study on family satisfaction conducted in the intensive care setting from the UAE. The overall satisfaction was high in all of the three ICUs studied. The overall satisfaction in the care subscale was slightly lower in the

female relatives compared to the male relatives' satisfaction. However, this was not statistically significant. Similarly, the total satisfaction score in males was greater than females, but this did not reach statistical significance. A study from Saudi Arabia involving a similar group of families did not demonstrate differences between males and females.^[18]

We noted differences in satisfaction levels between the ICUs studied. The highest satisfaction was observed in our adult cardiothoracic ICU in both care subscale and decision-making subscale, with an overall satisfaction rate of 78.1%. Again, this was statistically significant in comparison to adult ICU and pediatric ICUs. This may be because adult cardiothoracic ICU has fewer beds in contrast with the pediatric ICU with 27 beds and adult ICU with 29 beds. Higher satisfaction rates in the adult cardiothoracic ICU patients is probably because these patients undergoing cardiac operations are relatively healthy enough when operated upon with expected high recovery rates, which meets the family expectation. Relatively lower satisfaction was observed in the adult medical/surgical and pediatric ICUs in patients with complex comorbid conditions. A study from Singapore has demonstrated similar results, with cardiothoracic ICU expressing higher satisfaction rates.^[19]

An interesting finding was that the total satisfaction score and medical care score was lower in expatriate families in comparison with the UAE national families. Eighty percent of the population in Abu Dhabi are expats and come from

Table 2: Family satisfaction score and subscales for all patients (n=100)

| Variables | Care score | Decision-making score | Total score |
|---|------------|-----------------------|-------------|
| Overall | 80.1±18.6 | 68.1±11.5 | 75.1±14.2 |
| Family member gender, mean±SD | | | |
| Male (n=50) | 82.1±16.7 | 68.7±12.1 | 76.8±13.4 |
| Female (n=50) | 78.1±20.3 | 67.4±10.9 | 73.6±14.7 |
| Nationality, mean±SD | | | |
| UAE National (n=54) | 82.2±16.4 | 68.9±12.2 | 76.7±13.2 |
| Expatriate (n=46) | 77.5±17.6 | 67.1±10.6 | 73.2±15.0 |
| ICU unit, mean±SD | | | |
| Adult (n=53) | 79.2±18.7 | 68.1±10.4 | 74.6±13.7 |
| Adult cardiothoracic (n=20) | 83.5±13.4 | 70.5±11.8 | 78.1±10.9 |
| Pediatric (n=27) | 79.2±21.6 | 66.1±13.3 | 73.9±17.0 |
| Relationship to patient, mean±SD | | | |
| Wife (n=4) | 67.3±29.3 | 64.4±18.5 | 65.7±20.7 |
| Mother (n=17) | 78.0±28.7 | 65.7±11.0 | 72.9±15.1 |
| Daughter (n=20) | 79.6±19.6 | 68.6±6.3 | 75.0±12.0 |
| Husband (n=2) | 83.0±8.8 | 65.0±0.0 | 75.5±5.1 |
| Father (n=10) | 81.6±24.2 | 66.1±17.2 | 75.8±20.7 |
| Son (n=25) | 83.8±15.1 | 72.1±10.1 | 78.9±11.0 |
| Sister (n=7) | 77.5±20.7 | 67.9±15.9 | 73.5±17.6 |
| Brother (n=7) | 82.3±17.0 | 69.3±12.0 | 76.8±14.0 |
| Other (n=8) | 77.9±11.3 | 63.1±11.9 | 71.8±11.5 |
| Sub-group relationship to patient, mean±SD | | | |
| Father or mother (n=27) | 79.3±21.7 | 65.9±13.3 | 74.0±17.1 |
| Daughter or son (n=45) | 81.9±17.1 | 70.6±8.8 | 77.2±11.9 |
| Brother, cousin, husband, sister or wife (n=28) | 70.9±17.8 | 66.2±13.1 | 72.9±14.4 |

There were no significant differences between the scores in any of the groups ($P > 0.05$). ICU: Intensive care unit, SD: Standard deviation

Table 3: Comparison of the total score and subscores across different studies

| | UAE study | Hong Kong study | Canadian study | German study | Swiss study | American study |
|-------------|------------------|------------------------|-----------------------|---------------------|--------------------|---------------------------|
| Tool used | FS-24 | FS-24 | Modified FS-ICU | FS-34 | FS-34 | Modified FS-ICU and QOD-1 |
| Total score | 75.1±14.2 | 78.1±14.3 | 84.3±15.7 | 78.3±14.3 | 78±14.7 | 76.6±20.6 |
| Care score | 80.1±18.6 | 78.0±16.8 | 83.5±15.4 | 78.6±14.3 | 79±14 | 77.7±20.6 |
| DM score | 68.1±11.5 | 78.6±13.6 | 75.9±26.4 | 77.8±15.6 | 77±15 | 75.2±22.6 |

DM: Decision-making count, QOD-1: Single item quality of dying and death, ICU: Intensive care unit

over 80 countries with the majority from South Asian countries followed by other Middle-Eastern countries and others.^[20] Again, we did not specifically study the reason for these differences.

The satisfaction may be related to the level of education as is suggested in our study. Subgroup analysis revealed a high level of satisfaction with the care (81.9%) among daughters and sons in comparison with the satisfaction of the older members of the family (70.9%) such as brothers, sisters, wives, and husbands, though this did not reach statistical significance. This is in contrast to the study from Lebanon where educated and younger members of the family showed less satisfaction.^[21]

Our study demonstrates high family satisfaction scores, which is comparable to international studies except for the Canadian study that showed the highest satisfaction score. A modified FS24 family satisfaction tool was used in this study [Table 3]. The Canadian study showed the best results on family satisfaction so far.^[22] This could be explained by how realistic expectations from the family either toward the patient's condition or toward the health-care facility service are met, as well as the better physician: patient and nurse: patient ratios, which remains a challenge across many countries.^[12]

Although the majority of the UAE population profile is Asian subcontinent, our patient population has a predominance of Arabic clients. Similar to the study from Lebanon, most of the family members in our setting regardless of their religion expressed dependence on God the merciful and mighty in determining the future and well-being of their loved ones.^[23] When used in real time, FS ICU-24 questionnaire can provide real-time assessment of care needs of families and patients and will help institutes recover from service gaps.

Our study has some limitations that are worth a mention. First, the study had a relatively small number of participants and is single centered. Second, the majority of the relatives where their loved ones passed away refused to participate in the survey. Hence, an essential sector of patient's relatives where the outcome was unfavorable was not involved in our study. Third, many families felt insecure regarding the response given by them as most of the families involved in the survey completed the questionnaire when their loved ones were still under our medical care. Every effort was made to reassure the family members that the study was being conducted to improve ICU patient family care experience, and that their response would be kept confidential and the treating team will be unaware of their responses. Fourth, the original FS24 questionnaire was

not available in Arabic language and this required translation from English to Arabic by our trained translators. Finally, being a tertiary facility to which patients are referred for specialized services, a comparison may arise because of unmet care need at the primary hospital. The conventional differences in care levels may be perceived as a reason of dissatisfaction by family members who may feel more satisfied with the transfer. Many relatives may consider themselves "have done everything possible for their loved ones" by achieving a transfer of care to a tertiary facility. Our results may therefore not be generalizable to other health-care facilities in the UAE.

CONCLUSIONS

Family satisfaction survey using FS24 model is a valid and reliable method to assess the family satisfaction in any health facility including for ICUs with different scopes of service and serving a multicultural patient population. Most of the families involved in this survey had a high satisfaction level with both medical care and decision-making subscales for their critically ill relatives in ICUs. Overall the level of satisfaction is in comparison with other high-income and developed countries. This study has been useful to identify the importance of an opportunity for improving physician-family communication to advance care experience and family satisfaction in ICUs.

Authors' contribution

The study was conceived, conducted jointly by all authors. Manuscript was developed together and the final manuscript was reviewed and approved by all the authors before submission.

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Conflicts of interest

There are no conflicts of interest.

Compliance with ethical principles

The study was formally approved by the Institutional Review Board at Sheikh Khalifa Medical City, Abu Dhabi, United Arab Emirates.

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