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# The satisfaction of families in the care of their loved ones in CCUs in Lebanon

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**ABSTRACT**

**Background:** The needs of family members vary among cultures and hospitals. Often, these needs remain unmet increasing their stress and anxiety and decreasing their satisfaction with care, which may negatively impact the quality of patient care.

**Aims:** To assess the satisfaction of families with the care of their loved ones in critical care units (CCUs) in a large university medical centre in Lebanon and to assess the predictors of satisfaction.

**Methods:** A cross-sectional descriptive design was conducted using the Critical Care Family Satisfaction Survey (CCFSS). The participants were 123 adult relatives or significant others of patients cared for in both adult and paediatric intensive care units for at least 3 days.

**Results:** The CCFSS showed acceptable internal reliability and construct validity in a Lebanese population. In general, families were satisfied with the care their loved ones received in the CCUs, and the least satisfaction was in the area of 'comfort' and the highest was in 'assurance'. Younger family members with more education were less satisfied with care and Christian families expressed less satisfaction with informational needs compared with Muslim families. Families of children in the paediatric CCU expressed least satisfaction with care. Gender, residency, relationship to patient, unit, prior experience in a CCU and diagnosis had no effect on satisfaction scores.

**Conclusions:** Assessment of family satisfaction in different cultures is important as each culture has specific needs that are essential to decipher.

**Implications for practice:** Patient satisfaction leads to improved quality of care; thus, it behoves nurses to meet the needs of families from different cultures to help them cope and increase their satisfaction, which leads to improve patient outcomes.

**Key words:** family satisfaction • critical care unit • quality improvement

## INTRODUCTION

Family members are an integral part of the well-being of patients in critical care units (CCUs). Often, the family is faced with a loved one who is unexpectedly admitted to the CCU, which places them in a state of uncertainty, apprehension and powerlessness. Families are confronted with a complex technical environment, a multitude of staff and equipment that causes them stress and anxiety (Damghi *et al.*, 2008). While the needs of family members may vary, nurses must become attuned to these needs in order to provide holistic care to both the patient and his/her family (Roberti & Fitzpatrick, 2010; Nolen & Warren, 2014). When the needs of families are met, their stress is reduced and their satisfaction with care is improved, which may positively impact the quality of patient care and outcomes (Dowling & Wang, 2005; Shirley & Sanders, 2013). Although critical care nurses may be aware of the devastating impact of the acute illness on family members and may attempt to meet their needs, often their support is not congruent with the needs of the family members (Dowling & Wang, 2005; Myhren *et al.*, 2011; Lee & Lau, 2003). Therefore, it is essential that the needs of families and their satisfaction with care be assessed, which will provide data for comprehensive and high-quality nursing care for patients and their families (El-Masri & Fox-Wasylyshyn, 2007; Karlsson *et al.*, 2011). Worth mentioning is the fact that critically ill patients are often unable to be involved

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in their plan of care, or to voice their needs, which shifts the responsibility to the family to be involved in decision-making (Heyland *et al.*, 2002). Hence, assessment of families' satisfaction with care identifies the areas that need to be addressed in order to enhance their comprehension and decision-making capacity, which in turn enhances care (Verhaeghe *et al.*, 2005).

Most studies related to the needs and concerns of families of patients in the CCUs are based on Molter's Critical Care Family Needs Inventory (CCFN1), developed in 1979, which identifies and ranks five areas of family needs; support, comfort, information, proximity and assurance. Several studies using the CCFNI have demonstrated that family members have basic needs that are often not satisfied (Al-Mutair *et al.*, 2014; Takman and Severinsson, 2006; Omari, 2009), with the need for information least met (Bijttebier *et al.*, 2001; Verhaeghe *et al.*, 2005; Eggenberger & Nelms, 2007; Yedidia & Tiedemann, 2008; Bailey *et al.*, 2009). Although family satisfaction increases when clear information is provided, often information is not given appropriately, is contradictory or is not comprehended by family members (Azoulay & Sprung, 2004; Dowling *et al.*, 2005).

In this study, the Critical Care Family Satisfaction Survey (CCFSS), a shorter 20-item survey based on the CCFNI was used. The CCFSS, which assesses family members' satisfaction with care, has been used and validated in a few studies (Wasser *et al.*, 2001; 2004; Brown & Hijazi, 2008; Karlsson *et al.*, 2011; Baharoon *et al.*, 2014).

### Factors related to satisfaction with care

A few studies examined whether demographic variables affect the satisfaction with care of families of critically ill patients (Bijttebier *et al.*, 2001; Lee & Lau, 2003; Siddiqui *et al.*, 2011). Higher satisfaction with care was significantly associated with higher severity of illness (Stricker *et al.*, 2009) and with type of illness (Hunziker *et al.*, 2012). Men appear more critical of the type of treatment and hospitalization, while women are more critical of the manner in which they are informed and in general more satisfied with care (Al-Borie & Damanhouri, 2013; Malacrida *et al.*, 1998). Relatives of older patients express more overall satisfaction with CCU care than relatives of younger patients (Lewis-Newby *et al.*, 2011).

Although family needs and satisfaction with care of families in the West have been extensively assessed (e.g. Bijttebier *et al.*, 2001; Bailey *et al.*, 2009; Mundy, 2010), only four studies were noted that addressed the needs of families in the Middle East using the CCFNI (Al-Hassan & Hweidi, 2004; Al-Mutair *et al.*, 2014; Tekindal *et al.*, 2012), and one addressed the needs of families using the Society of Critical Care Medicine's Family Needs Assessment survey (Damghi *et al.*, 2008). In the Middle East, there are strong bonds among the family members, with traditional habits such as visiting relatives and friends during times of illness and showing concern and respect, which may have an effect on how satisfaction is perceived (Al-Shahri, 2002, Damghi *et al.*, 2008). In Turkey, the majority of patient relatives in CCUs, medical and surgical services expressed the need for 'communication' and 'information' and that nurses have important roles in meeting these needs (Tekindal *et al.*, 2012). In Saudi Arabia and Jordan, assurance and receiving information were the most expressed needs of family members (Al-Hassan & Hweidi, 2004; Al Mutair *et al.*, 2014), while in Morocco, families were least satisfied with the information provided (Damghi *et al.*, 2008). No studies were found that addressed family satisfaction using the CCFSS and none have assessed the determinants of satisfaction of family members with the care of patients in CCUs in the Middle East. Based on the above, the purpose of this study was to assess the satisfaction of Lebanese family members with patient care in CCUs using the CCFSS.

The research questions addressed were:

- What is the reliability and validity of the CCFSS in a Lebanese population?
- How satisfied are family members in the care received in a CCU?
- What factors are associated with family satisfaction?

## METHODS

### Design

A cross-sectional descriptive study was conducted to assess the satisfaction of families of patients in five CCUs at a university medical centre in Beirut, Lebanon.

### Participants

Participants were recruited from a convenience sample of relatives of patients hospitalized at selected CCUs between April 2013 and June 2013. Only one family member was interviewed for each patient. A family member was defined as any individual that indicated that he/she was the closest to the patient, with or without blood relations, with whom the patient was living in a close relationship. A sample of 120 family members was considered adequate considering a 0.05 alpha error and a 0.20 beta error based on previous similar studies (Johnson *et al.*, 1998). Participants were at least 18 years of age, have a relative who has spent at least 3 days in one of the CCUs at the centre and able to read and write in Arabic.

### Setting

The five CCUs selected for this study were: the intensive care unit (ICU), the respiratory care unit (RCU), the neurological intensive care unit (NICU), the coronary care unit (CCU) and the pediatric intensive care unit (PICU).

### Instrument

The instrument used to collect data was the Arabic version of the CCFSS, which was tested for reliability and validity in an earlier study in Saudi Arabia (Brown & Hijazi, 2008). The CCFSS is a 20-item questionnaire based on a survey first developed by Molter (1979) that originally included 45 items. The CCFSS measures family satisfaction with the care patients receive in an ICU (Wasser *et al.*, 2001; 2004). Psychometric properties of the CCFSS have been reported in a few studies (Wasser *et al.*, 2001; 2004; Brown & Hijazi, 2008; Karlsson *et al.*, 2011; Hickman *et al.*, 2012, Baharoon *et al.*, 2014). The survey has two parts; the first collects socio-demographic information: age of the respondent, gender, education, relationship to the patient, residency (far or close to the hospital), age of patient, previous experience with a hospitalized relative in a CCU and diagnosis. The second part includes 20 statements answered on a 5-point Likert scale, ranging from 5 = very satisfied to 1 = very dissatisfied. The questionnaire yields five dimensions (1) 'support' (the need for recourses and support), (2) 'comfort' (the need for personal comfort), (3) 'information' (the need for consistent, realistic and timely information), (4) 'proximity' (the need for personal contact and to be physically and emotionally near the patient) and (5) 'assurance' (the need to feel hope for a desired outcome). Internal consistency in studies range between 0.31 and 0.93. A mean subscale score is calculated for each subscale (range: 1–5), and a total satisfaction score (range: 5–25) is computed by summing the five subscale scores. Higher scores indicate a greater satisfaction as perceived by a patient's family member (Wasser *et al.*, 2001; 2004; Brown & Hijazi, 2008). Two questions were added to the instrument; one asking about the religious affiliation of the participant and the second asking whether the presence of a religious person in the hospital is needed. These were added as most Middle Eastern people are religious and often seek the help of God in stressful events especially Muslims for whom ' Allah' is the ultimate authority on health and illness.

Ethical approval was obtained from the institutional review board of the University. Written consent was not required as submission of the questionnaire was considered as an agreement of participation.

### Procedure

Five nurses who were part of the research study and had completed the Collaborative Institutional Training Initiative (CITI) course for protection of human subjects approached the relatives or significant others of patients in CCUs during visiting hours and asked them if they were interested in being part of the study. Anonymous questionnaires were distributed to 200 family members who had patients admitted for a minimum of 3 days to one of the five CCUs during the study period. The family member was instructed to fill the questionnaire and leave it in a designated box outside the CCUs. One of the nurses was appointed available to answer any question if needed.

### Data analysis

Data were analysed using SPSS for Windows version 22.0 (SPSS Inc., Chicago, IL, USA). Socio-demographic and clinical characteristics of patients were described using frequencies for categorical variables and means/standard deviation for continuous variables. Reliability of the CCFSS was assessed using Spearman rank correlations for internal consistency on the five subscales and Cronbach's alpha was used for the total scale. The construct validity of the scale was examined using principal component extraction with varimax rotation (Mertler & Vannatta, 2005). To determine the satisfaction of families on the five subscales, means and standard deviations (SDs) were computed. Analysis of variance (ANOVA) with *post hoc* Bonferroni tests was used to determine any statistically significant differences between participants' demographic characteristics and family satisfaction. To facilitate analysis, age was divided into below 40 years and above 41 years; education was divided into primary, secondary and university and above; and diagnosis was divided into cardiac, respiratory, central nervous system (CNS) disorders and other. All statistical analyses were considered significant at the 0.05 level.

## RESULTS

### Sample characteristics

Over the study period between April 2013 and June 2013, 123 questionnaires were returned (response rate = 61.5%). Table 1 presents the characteristics of the sample. Respondents were mostly female (64.4%), with an average age of 43.72 years (±13.28) and the majority did not live close to the medical centre (67.5%). More than half of the participants had a university or postgraduate degree (54.4%). The largest proportion of the participants identified themselves as spouses (26.8%), parents (25.2%) or offspring (26.0%) of patients. Around half the sample (47.9%) had previous

 

**Table 1** Demographic characteristics of the participants ($n = 123$)

| Relationship to patient | Number percentage (%) | |
|---|---|---|
| Parent (father/mother) | 31 (25.2) | |
| Spouse (husband/wife) | 33 (26.8) | |
| Offspring (son/daughter/grandchild) | 32 (26.0) | |
| Sibling (brother/sister) | 16 (13.1) | |
| Family member | 11 (8.9) | |
| Unit | | |
| Coronary care unit | 31( 25.3) | |
| Intensive care unit (medical/surgical) | 28 (22.7) | |
| Pediatric intensive care unit | 24 (19.5) | |
| Respiratory care unit | 20 (16.2) | |
| Neuro ICU | 20 (16.2) | |
| Education | | |
| Primary | 17 (13.8) | |
| Secondary | 39 (31.7) | |
| University degree/higher education | 67 (54.5) | |
| Gender | | |
| Female | 79 (64.4) | |
| Prior experience in CCU | | |
| Yes | 59 (47.9) | |
| Diagnosis | | |
| Cardiac | 46 (37.4) | |
| CNS disorders | 34 (27.6) | |
| Respiratory | 21 (17.1) | |
| Other | 22 .(17.9) | |
| Religion | | |
| Muslim | 98 (79.8) | |
| Christian | 15(12.5) | |
| Druze | 10 (7.7) | |
| Living close to hospital | | |
| Yes | 83 (67.5) | |
| Age of respondent | Mean | SD |
| | 43.72 | 13.28 |

ICU, intensive care unit; CCU, critical care units; CNS, central nervous system.

experience in a CCU and the most frequent diagnoses were cardiac (37.4%) followed by CNS disorders (28.4%). Parents of a child in the PICU constituted 21% of the respondents, and 48% of them had a loved one in the CCU or ICU, 16% had loved ones in the RCU and 15% had loved ones in the NICU.

## Answers to research questions

*Research question 1: What is the reliability and validity of the CCFSS in a Lebanese population?*

To assess the internal consistency, the Spearman rank coefficient yielded correlations between 0.66 and 0.93 on the five subscales. The lowest was the 'proximity' subscale, which yielded an $r$ of 0.66, followed by 'assurance' with an $r$ of 0.75, 'information' yielding an $r$ of 0.83, 'support' with an $r$ of 0.89 and 'comfort' yielding an $r$ of 0.93. Cronbach's alpha for the whole scale was 0.89. For validity, principal factor analysis with varimax rotation yielded five factors with an eigenvalue >1, which explained 62.52% of variance. Based on confirmatory factor analysis where factor loadings >0.40 were grouped into one sub-factor, the five factors extracted were: factor 1, 'information' that explained 36.8% of the common variance with loadings between 0.617 and 0.747 (items 2, 4, 10 and 12), factor 2 'assurance' that explained 19.29% of the common variance with loadings between 0.486 and 0.802 (items 3, 4, 7 and 19), factor 3, 'proximity' that explained 12.35% of the variance with loadings between 0.412 and 0.510 (5, 15, 16 and 18), factor 4 'support' that explained 9.95% of the variance with loadings between 0.593 and 0.891 (items 1, 9, 11, 0.13, 14 and 16) and factor 5 'comfort' that explained 8.82% of the variance with loadings between 0.660 and 0.840 (items 8, 17, 19).

*Research question 2: How satisfied are family members in the care received in a CCU?*

The mean on the total scale was 20.89 (±1.2) and the mean on the individual 20 items was above 3.5. The lowest scores were related to waiting time for results (mean = 3.63 ± 0.96), cleanliness of the waiting room (mean = 3.67 ± 0.91), peacefulness of the waiting room (mean = 3.58 ± 1.31) and flexibility of visiting hours (mean = 3.54 ± 0.89). In terms of the five subscales, satisfaction with care was above the mean in all the five factors. The least satisfaction was in the area of comfort, mean: 3.58 (±0.85), and the highest in the area of assurance (mean: 4.14 ± 0.95), followed by support (mean: 4.09 ± 1.01), information (mean: 4.03 ± 0.88) and proximity (mean: 3.76 ± 0.66).

*Research question 3: What factors are associated with family satisfaction?*

As noted in Table 2, family members who were older than 41 years were more satisfied with care in four out of the five areas (information, support, assurance and comfort) than their younger counterparts (<40 years) ($F = 3.69$, $p < 0.05$). Less educated family members expressed more satisfaction in three areas (information, assurance and comfort) ($F = 3.39$, $p < 0.05$). Christian families were less satisfied with the information provided compared with Muslim families ($F = 8.78$, $p < 0.001$). Families of children in the PICU had the lowest satisfaction in all the five areas of needs ($F = 5.23$, $p < 0.01$). Gender, residency, relationship to patient, unit, prior experience in a CCU and diagnosis had no effect on satisfaction. The need for a religious person in the hospital was not expressed by 80% of the families.

## DISCUSSION

This study is the first to assess the satisfaction of families of CCU patients in Lebanon using the CCFSS. The

**Table 2** Univariate analysis between patient characteristics and the means and standard deviations (SDs) of five satisfaction scores

| Item | Information Mean (SD) | Support Mean (SD) | Assurance Mean (SD) | Proximity Mean (SD) | Comfort Mean (SD) |
|---|---|---|---|---|---|
| Gender | | | | | |
| Male | 4.03 (0.66) | 4.04 (0.69) | 4.09 (0.61) | 3.89 (0.69) | 3.88 (0.87) |
| Female | 4.02 (0.70) | 4.13 (0.93) | 4.16 (0.52) | 3.99 (0.64) | 3.92 (0.82) |
| Education | | | | | |
| Primary | 4.62* (0.63) | 4.03 (0.98) | 4.83* (0.51) | 4.25 (0.48) | 4.70* (0.49) |
| Secondary | 3.92 (0.59) | 3.98 (0.67) | 4.02 (0.72) | 4.02 (0.52) | 4.02 (0.75) |
| University | 3.82 (0.87) | 4.16 (0.88) | 3.19 (0.88) | 3.92 (0.80) | 3.40 (0.88) |
| Age | | | | | |
| >40 | 4.10* (0.56) | 4.38* (0.73) | 4.43* (0.55) | 4.06 (0.58) | 4.03 (0.78) |
| <40 | 3.58 (0.76) | 3.52 (1.02) | 3.65 (0.55) | 3.87 (0.71) | 3.86 (0.92) |
| Residency close | | | | | |
| Yes | 4.01 (0.83) | 4.01 (0.86) | 4.12 (0.87) | 3.88 (0.76) | 3.90 (0.82) |
| No | 4.03 (0.61) | 4.85 (1.02) | 3.91 (0.85) | 3.49 (0.61) | 3.51 (0.85) |
| Diagnosis | | | | | |
| Cardiac | 4.12 (0.68) | 4.13 (0.72) | 3.92 (0.68) | 3.92 (0.91) | 3.60 (1.03) |
| CNS disorders | 4.03 (0.72) | 4.29 (0.81) | 4.01 (0.73) | 3.83 (0.93) | 3.42 (0.93) |
| Respiratory | 3.98 (0.92) | 4.01 (0.92) | 3.89 (0.69) | 4.01 (0.87) | 3.56 (0.89) |
| Other | 4.05 (1.01) | 4.31 (1.02) | 4.03 (0.81) | 3.68 (0.93) | 3.28 (0.98) |
| Religion | | | | | |
| Muslim | 4.2 (0.91) | 4.01 (0.69) | 4.03 (0.73) | 3.92 (0.69) | 3.33 (0.82) |
| Christian | 3.39* (0.68) | 4.23 (0.75) | 3.81 (0.82) | 3.89 (0.86) | 3.45 (0.76) |
| Druze | 4.41 (0.86) | 4.04 (0.59) | 3.79 (0.61) | 4.11 (0.94) | 3.79 (0.93) |
| Previous experience | | | | | |
| Yes | 3.89 (0.69) | 3.98 (0.67) | 4.05 (0.55) | 3.81 (0.64) | 3.74 (0.88) |
| No | 4.15 (0.67) | 4.12 (0.87) | 4.22 (0.55) | 4.08 (0.66) | 3.46 (0.80) |
| Relationship to patient | | | | | |
| Parent | 4.32 (0.98) | 4.12 (0.62) | 3.87 (0.63) | 3.67 (0.95) | 3.44 (1.02) |
| Spouse | 4.03 (0.72) | 4.66 (0.98) | 4.45 (0.93) | 4.53 (0.83) | 3.54 (0.93) |
| Offspring | 3.38 (0.87) | 424 (0.67) | 3.95 (0.79) | 4.21 (0.87) | 3.09 (0.89) |
| Sibling | 4.45 (0.65) | 4.51 (0.88) | 4.43 (1.04) | 3.97 (0.93) | 4.01 (0.98) |
| Family member | 4.09 (0.97) | 4.22 (0.89) | 3.99 (0.65) | 3.67 (0.66) | 3.76 (0.59) |
| Unit | | | | | |
| CCU | 3.56 (0.69) | 4.45 (1.05) | 4.02 (0.88) | 3.96 (0.99) | 3.60 (1.03) |
| ICU | 4.13 (0.82) | 4.69 (0.81) | 3.96 (0.93) | 4.63 (0.96) | 3.42 (0.93) |
| PICU | 3.98 (0.92) | 4.21 (0.96) | 4.79 (0.69) | 4.21 (0.87) | 3.56 (0.89) |
| RCU | 4.35 (1.01) | 4.09 (1.04) | 4.43 (1.08) | 3.68 (0.93) | 3.28 (0.98) |
| NICU | 3.99 (0.76) | 3.98 (1.03) | 3.69 (0.99) | 3.78 (1.05) | 3.47 (0.58) |

*$p < 0.05$.

CNS, central nervous system; CCU, critical care units; ICU, intensive care unit; NICU, Neurological Intensive Care Unit; PICU, pediatric intensive care unit; RCU, respiratory care unit.

results demonstrate that most families are generally satisfied with the quality of care provided by the CCU team members.

The findings further provide support to reliability and validity of the CCFSS in assessing the satisfaction of families with patient care in the CCUs. A few earlier studies have likewise noted the internal consistency and discriminate validity of the CCFSS in different populations (Wasser *et al*., 2001; 2004; Brown & Hijazi, 2008) with slight variations in the inter-item reliabilities and factor loadings of the constructs. For example, Wasser *et al*. (2001; 2004) reported a four- or five-factor subscales on the CCFSS with internal reliability consistencies between 0.31 and 0.91 with a poor performance on the 'comfort' subscale (0.31) and the highest on 'support' (0.91). In contrast, we noted inter-rater reliabilities between 0.66 and 0.93 with the lowest on the 'proximity' subscale and the highest on the 'comfort' subscale. Our findings on the psychometric properties of the CCFSS are more consistent with the translated Arabic version of the CCFSS, which had five subscales with internal reliabilities between 0.48 and 0.81 (Brown & Hijazi, 2008). Similar to our results, Brown & Hijazi (2008) also noted that the 'proximity' subscale had the lowest internal consistency. This subscale includes items on the ability to share in the care of the family member, privacy provided during visits and flexibility of the visiting hours; these concepts may not be as familiar with Middle Eastern families as they are with their Western counterparts. The subscale comfort had item 19 (unit noise) that loaded into this factor, which in the original validation of the questionnaire was loaded with 'assurance' (Wasser *et al.*, 2001). It is plausible that noise may conceptually be more related to comfort than 'assurance'. Wasser *et al.* (2004) had likewise noted that the 'comfort' subscale did not demonstrate acceptable reliability. On the basis of above findings, it is recommended that additional testing of the CCFSS in different populations and cultures should be conducted.

The least satisfaction was in the area of comfort, which is unlike most study findings in the West (Bailey *et al.*, 2009; Hinkle *et al.*, 2015), where most families are least satisfied with the information received. It may be that the CCUs at this facility are not comfortable for families and attention is needed in making waiting rooms more accommodating for families, such as having a telephone available, comfortable furniture, a television and refreshments. Several researchers have suggested that a waiting area with comfortable furniture should be provided near the patient because a supportive environment is important for the well-being and satisfaction of family members (Heyland *et al.*, 2002; Lee & Lau, 2003; Sturdivant & Warren, 2009; Holanda Peña *et al.*, 2013). One item that received the lowest score on the CCFSS was item 18 (flexibility of visiting hours), which is supported by numerous studies since the 1990s that advocated for open and flexible visiting hours to support relatives of patients in CCUs and to decrease their anxiety and stress (Bijttebier *et al.*, 2001; Azoulay & Sprung, 2004; Cappellini *et al.*, 2014).

Families seemed most satisfied with the 'assurance' they obtained from the health professionals in the CCUs. This subscale measures how satisfied families are in knowing who their nurses are and in the responses from the staff to their queries. The subscale 'support' received the second highest satisfaction scores, which indicates that families of critically ill patients in this centre feel supported and encouraged. Family members ranked items under the subscale 'information' as the third highest mean on the CCFSS suggesting their satisfaction with the information provided about their loved ones.

Gender was not associated with satisfaction scores in this study, which has contradictory findings in the literature. While some studies show that women tend to be less satisfied with care than men (Elliott *et al.*, 2012; Bener & Ghuloum, 2013), others find that females report more satisfaction (Al-Doghaither, 2004; Al-Borie & Damanhouri, 2013) and some others note no relationship between gender and overall patient satisfaction (Hekkert *et al.*, 2009; Chatzaki *et al.*, 2012; Schwarzkopf *et al.*, 2013). This finding warrants further exploration especially in Middle Eastern countries where gender variations could be more noticeable. It has been argued that women are generally more able to express their complaints and dissatisfactions, while men seem to be more reticent.

Family members with high education levels were less satisfied with care, which is congruent with most findings in earlier studies (Margolis *et al.*, 2003; Damghi *et al.*, 2008; Hekkert *et al.*, 2009; Buchanan *et al.*, 2015), indicating that families with less education have lower expectations and may not have much knowledge about health care resulting in higher satisfaction ratings. It is also plausible that families with a high level of education are more demanding especially when encountered with unfamiliar medical and technical terms. Respondents who were younger were less satisfied, which is in accordance with many studies regardless of culture, country or the type of health care organization (Margolis *et al.*, 2003; Hekkert *et al.*, 2009; Hunziker *et al.*, 2012; Rahmqvist & Bara, 2010). This can be explained by the fact that younger patients have higher expectations and knowledge of the quality of care provided thereby resulting in less satisfaction. Co-morbidity was not associated with satisfaction in this study, which has opposing results in the literature. For example, Hunziker *et al.* (2012) noted that cardiac co-morbidity was associated with lower satisfaction, while Stricker *et al.* (2009) reported that higher satisfaction with care was significantly associated with higher severity of illness. The contrasting results could be related to the method in which the satisfaction scores were obtained or in the communication between the health care providers and the family members about the severity of the illness.

Christian families expressed less satisfaction with the information provided compared with Muslim families. This finding may be a reflection of the impact of the Muslim religion on participants who may be less demanding because illness is considered predestined and may not be related to the care of the health care provider or the institution (Damghi *et al.*, 2008). The relationship of the respondents to the patient did not emerge as a significant factor in family satisfaction, which is supported by an earlier study where the degree of kinship of the relative was not a significant factor in satisfaction (Neves *et al.*, 2009). Authors of an earlier study in Morocco noted that in Arabic cultures, family size is large and characterized by strong ties among its members who visit the patient, overcrowd the waiting rooms and are all directly involved in the care of the sick patient in the CCU (Damghi *et al.*, 2008).

Prior experience in CCUs had no effect on satisfaction scores in this study, which is in accordance with two earlier studies in the Middle East and several studies in the West (Al-Hassan & Hweidi, 2004; Verhaeghe *et al.*, 2005; Al-Mutair *et al.*, 2014). Nevertheless, as an unhappy prior experience in a CCU may colour the satisfaction of family, it is sensible to assess the previous experience of families in the CCU. Families of children in the paediatric unit expressed the least satisfaction in all areas, which is rather expected, as parents of sick children are more likely to be stressed and anxious when witnessing their child's pain and fear (Hosseinian *et al.*, 2015). As children cannot make decisions related to their care, their parents become the primary caretakers and surrogate decision makers (Needle *et al.*, 2009; Sturdivant & Warren, 2009). As such, parents of hospitalized children may need frequent updates on information concerning their child's plan of care and the overall progress. They may also need to be involved in their child's care and to be provided with additional support to lessen their stress and anxiety (Power & Franck, 2008; Russell *et al.*, 2014).

Living close to the hospital was not related to satisfaction scores, which is unlike the findings in the study by Hunziker *et al.* (2012) where location of residence influenced satisfaction scores. Although family members travelling farther distances may result in less satisfaction, distances in Lebanon are rather short as the whole country is 10 400 square kilometres (4014 square miles).

Interestingly, the majority of respondents did not express the need for a religious presence to help them cope with the illness of their loved one. This finding is different from earlier studies where religious presence is considered as an important factor in psychosocial and emotional support of critically ill parents and their families (Wall *et al.*, 2007; Johnson *et al.*, 2014). It is possible that Lebanese families have their own clergy for support and did not see the necessity of having a strange clergyperson in the hospital for support. In addition, Lebanon has 17 different religious sects and people are very loyal to their religious affiliation, which may make the role of a hospital clergyperson less important. As most Lebanese people, regardless of religion, consider God as powerful, capable and the source of miracle, nurses should assess the spiritual needs or families in case they need to be referred to appropriate spiritual advisors (Robinson *et al.*, 2006; Doumit *et al.*, 2008).

Evaluating patient and family satisfaction is a prerequisite to health care quality improvement and provides valuable information about the quality of health care services. Quality care cannot be provided and improved without patient satisfaction. This is an important consideration for benchmarking of most hospitals around the world as they compete to rank as the best institutions in providing care (Jha *et al.*, 2008; Hosseinian *et al.*, 2015). However, differences in infrastructure, patient selection, medical services and cultures may impede comparison between hospitals. These parameters must be considered especially when different cultures with different needs are compared.

### Limitations

There are several limitations to this study, including a relatively small sample size and the fact that the families surveyed were from one single medical centre. Although the 61.5% response rate is acceptable, respondents may have different opinions than those who did not respond creating response bias, which may have influenced the results. It is also possible that non-responding families were more stressed and thus declined to participate. Finally, it is worth that family satisfaction may not be captured by a single survey as there may be several issues that cannot be measured quantitatively.

## IMPLICATIONS FOR PRACTICE

Measuring family satisfaction with the care of patients in CCUs is essential in order to gain insight into family satisfaction in CCUs and to translate data into quality improvement initiatives. In this study, families were least satisfied with comfort, which is an area that can be improved by providing families with a hospital environment that is more friendly and comfortable. Even though in general family members were satisfied with the care provided, there are opportunities for improvement, most notably with respect to families with children in the PICU who may require additional emotional support, assurance and consistent information. Moreover, nurses and doctors often fail to appreciate the needs of family members who are stressed and confused and who may need extensive support and repeated comprehensible information that leaves room for hope (Verhaeghe *et al.*, 2005). Engaging patients and their families in decision-making may afford them the opportunity to share their values and preferences for care before patients become incapacitated by their illnesses rendering them incapable of making their own decisions (Kryworuchko & Heyland (2009)).

**WHAT IS KNOWN ABOUT THIS TOPIC?**

- Most studies that addressed family needs and satisfaction with care of patients in CCUs have found that information is the most essential need.

**WHAT THIS PAPER ADDS?**

- Families of loved ones in CCUs in Lebanon were least satisfied with the comfort provided.
- Different cultures may have different needs, which should be assessed in order to provide quality care.

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