ORIGINAL ARTICLE – OPEN ACCESS

Evaluation of Family Satisfaction Level at Erciyes University Medical Faculty Intensive Care Units with a Validated Survey

Zeynep Yüksel Turhan[1] ⓘ, Aynur Karayol Akın[2] ⓘ, Sevda Onuk[2] ⓘ, Kürşat Gündoğan[3] ⓘ

ABSTRACT

Objective: This study aims to investigate the validity and reliability of the FS-ICU 24 survey in the Turkish language, to evaluate the satisfaction of ICU patients' relatives, and to determine the factors affecting satisfaction.

Materials and Methods: In this study, the Turkish version was prepared based on the FS-ICU 24 survey applied to the relatives of ICU patients (Anesthesiology, Internal Medicine, General Surgery and Neurosurgery) at the Erciyes University in the Faculty of Medicine between April 2015 and June 2015. The Turkish version was tested and proven to be reliable and valid. Relatives of patients that were hospitalized for at least 48 hours, who had visited the patient at least once, were included. In this study, 369 surveys were completed.

Results: FS-ICU 24 survey was found reliable and valid in Turkish. Patients' relatives were unsatisfied with physical conditions, waiting room setting and frequency of communication with nurses the most. The relatives were highly satisfied with the skills and competency of ICU doctors/nurses, setting of the ICU, completeness of treatment provided. Among the intensive care unit departments, there were not any statistically significantly different satisfaction results (p>0.05). The satisfaction level was found to decrease with increasing education levels and increasing duration of hospitalization (p<0.05). The satisfaction in the group who knew the diagnosis was higher (p<0.05).

Conclusion: Even though the general satisfaction level of the patients' relatives was high, satisfaction level can be increased by improving physical factors, such as the waiting room setting, and by training on the communication skills of all staff that have contact with the patients' relatives on communication skills.

Keywords: Satisfaction, intensive care unit, family, quality of care

[1]Department of Anesthesiology, Niğde Ömer Halisdemir University Training and Research Hospital, Niğde, Turkey
[2]Department of Anesthesiology, Erciyes University Faculty of Medicine, Kayseri, Turkey
[3]Department of Internal Medicine, Erciyes University Faculty of Medicine, Kayseri, Turkey

Correspondence
Zeynep Yüksel Turhan,
Niğde Ömer Halisdemir University Training and Research Hospital, Department of Anesthesiology, Niğde, Turkey
Phone: +90 388 232 22 20
e-mail:
zeynepyuksel6@gmail.com

INTRODUCTION

The limited availability of national financial resources and necessity for efficient use of them has led to increased practice of satisfaction evaluations to provide high-quality and low-cost health care. After the past days, when mortality and functional status were counted as the main determinants of quality, they now shifted to issues, such as quality of care, quality of information and decision-making process, quality management of death process and efficient use of resources (1–3).

Satisfaction studies started in the 1970s (4). Investigation of patient satisfaction in ICU is more complicated because most of the patients in the ICUs are sedated and/or unable to communicate. Thus, the relatives become the surrogate decision-makers (4–6).

Determination of the patients' and their relatives' satisfaction in ICU is complex. However, this parameter has a central position to improve the quality of care (7). Heyland et al. (1) developed the Family Satisfaction in the Intensive Care Unit (FS-ICU 24) survey, which was successfully applied in a multi-center study conducted across Canada. This survey measures family satisfaction effectively and more valid compared to other surveys (4, 8).

In this study, our aim is to determine the parameters that affect satisfaction and satisfaction level from ICUs after testing the reliability and the validity of the FS-ICU 24 survey in Turkish.

MATERIALS and METHODS

At the beginning of this study, permission was taken from J. Randall Curtis, one of the developers of the survey, using an e-mail. After obtaining ethical approval (Erciyes University Medical Faculty Ethics Committee, approval number 2014/121), the Turkish version of the FS-ICU 24 survey was prepared based on the FS-ICU 24 survey. In the original survey, in part of satisfaction with the decision-making process, the answer to the questions was different from the rest of the scale. Thus, after interviewing with staff from the Department of Biostatistics, exclusion of these four

questions found appropriate. Questions were translated into Turkish by two specialists. The translated manuscript was retranslated into English by two different specialists to evaluate the accuracy of the translation. One question that was thought to be helpful for confidence assessment was added. To maintain the face and content validity and to determine the cultural appropriateness, five anaesthesiologist and ten intensive care unit nurses assessed questions. Participants reviewed the survey and there was no conflict about the questions. Thus, at the end of the discussion meeting, the final version of the survey was formed with 21 questions firstly. Separate from these questions, open-ended three questions were preserved as there was in the original scale. Reliability/validity evaluation was carried out in the Department of Biostatistics at Erciyes University. After reliability/validity evaluation, since the total adjusted correlation value of one item (waiting room atmosphere) was below 0.4, this item was excluded. The Turkish version of the survey had 20 questions finally. The survey was performed to relatives of patients that were still alive, who were being hospitalized in ICU for at least 48 hours, had visited the patient at least once, age 18 and older, volunteer to participate, able to read and write Turkish and mentally communicable, following obtaining their informed consents. Only one relative was included in this study per patient. The survey was applied as a questionnaire to relatives by investigators in the information room. Data collection lasted about 15 minutes. Tertiary ICUs (the ICUs in Anesthesiology, Internal Medicine, General Surgery, and Neurosurgery Departments) in the Faculty at Medicine at Erciyes University were included. This study was conducted between April 2015 and June 2015. The survey evaluated the following topics: treatment, care, the attitudes of the ICU staff, environmental conditions and the decision-making process. The answers to the survey questions ranged from excellent (1 point) to poor (5 points), consistent with the original survey. A high score means high complaints and low satisfaction.

Statistical Evaluation

The data were analyzed using the IBM SPSS Statistics 22.0 (IBM Corp., Armonk, New York, ABD) statistical package. The descriptive statistics were denoted with the number of subjects (n), percentage (%), mean±standard deviation ($\bar{\chi}\pm$SD), minimum and maximum values. The normal distribution of the variable data was evaluated using the Shapiro Wilk normality test and the Q-Q graphs. Internal consistency was estimated with Cronbach's alpha reliability coefficients for the total scale and the subscales; the additivity was evaluated using the Tukey additivity test, the sufficiency of the sample size was evaluated with the Kaiser – Meyer – Olkin test, factorability was evaluated with the Bartlett test, the determination of the factor structures was through the Main Factors analysis. Evaluation of construct validity, the Varimax method was used as the factor rotation method. The reliability of the scale was determined using the test-retest method, intragroup correlation coefficients, and the t-test for the matched subjects. The comparisons between groups with normal distribution were performed using the t-test for two independent samples and the one-way variance analysis. The relationships between numerical data were analyzed with the Pearson or Spearman correlation analysis tests, $p < 0.05$ was considered as statistically significant.

The Reliability and Validity Testing of the FS-ICU 24

Since the total adjusted correlation value of one item was below 0.4, this question was removed from the scale, and the analysis
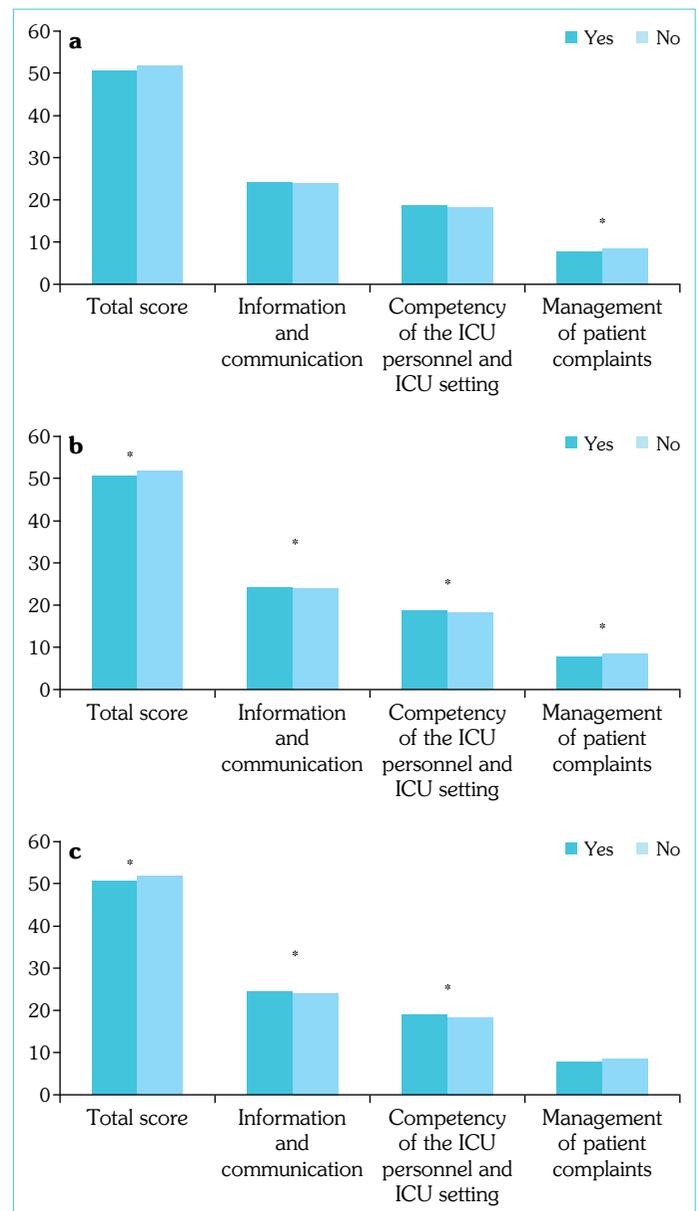

Figure 1. (a) Effects of previous ICU experience on satisfaction. (b) Effects of being aware of the diagnosis of the patient on satisfaction. (c) Effect of education level on satisfaction

was re-performed, and the results were presented. Item-total correlation of the 20 items is presented in Table 1. The homogeneity of the scale was also confirmed by the item-total correlations, which showed that all items were significantly correlated with the total scale The Tukey non-additivity test, which indicates the additivity of the items, was found to be significant (F=18.374; p<0.001). The factorability of the scale items was determined by the Bartlett Sphericity test (χ^2=4952; p<0.001). The Kaiser-Meier-Olkin value was determined as 0.948, which indicates that the sample size was sufficient for factor analysis.

Construct Validity: After factor analysis, three factors were extracted. Factor analysis reveals that nine items were loaded Factor 1, eight items were loaded Factor 2 and 3 items were loaded Factor 3. Variance values and the factor loads of the components

Table 1. 20 Item-total statistics

	SD	Corrected item-Total correlation	Cronbach's alpha if item deleted
The courtesy, respect and compassion your family member (the patient) was given	0.94730	0.619	0.944
How well the ICU staff assessed and treated your family member's pain?	0.99558	0.625	0.944
How well the ICU staff assessed and treated your family member's breathlessness?	1.06166	0.539	0.946
How well the ICU staff assessed and treated your family member's agitation?	1.09340	0.586	0.945
How well the ICU staff showed an interest in your need?	0.91742	0.705	0.943
How well the ICU staff provided emotional support?	1.03074	0.687	0.943
The teamwork of all the ICU staff that took care of your family member.	0.89496	0.692	0.943
The courtesy, respect and compassion you were given	0.91394	0.709	0.943
How well the nurses cared for your family member?	0.86310	0.708	0.943
How often nurses communicated to you about your family member's condition?	1.10821	0.598	0.945
How well doctors cared for your family member?	0.90948	0.623	0.944
Atmosphere of the ICU	0.90591	0.606	0.944
Do you believe that someone will call and inform you when there is a significant change in your patient's condition?	1.02311	0.663	0.943
How satisfied were you with the level or amount of health care your family member received in the ICU?	0.91926	0.676	0.943
How often doctors communicated to you about your family member's condition?	1.04154	0.720	0.942
Willingness of ICU staff to answer your questions.	0.97282	0.762	0.942
How well does the ICU staff provided you with explanations that you understood?	0.98666	0.676	0.943
The honesty of information provided to you about your family member's condition.	0.94438	0.711	0.943
How well does ICU staff informed you what was happening to your family member and the reason things were being done?	1.00535	0.741	0.942
The consistency of information provided to you about your family member's condition.	1.04453	0.696	0.943

SD: Standard deviation; ICU: Intensive care unit

were presented in Table 2. The Varimax with Kaiser Normalization analysis was used to determine which items belonged to which component. The results are presented in Table 2.

The subscales were named according to the content of the questions as follows:

Subscale 1: Information and Communication

Subscale 2: The Competency of the ICU Personnel and the ICU setting

Subscale 3: The Management of Patient's Complaints

Reliability: After internal consistency testing, Cronbach's alpha in the twenty items was calculated as 0.946 for the total scale. Cronbach's alpha coefficient was high either at totally or at all subgroups. Cronbach's alpha values indicated in Table 2.

Fifty-one subjects were reached out to 7–10 days after test retesting. The test-retest analysis indicated that there was no difference between the tests - retests and also results were highly correlated. The results of the reliability analysis are given in Table 3.

At the end of reliability and validity examination, the Turkish version of the scale found highly valid and highly reliable.

RESULTS

Demographic Data
The study included 369 relatives (95 from the Anesthesiology ICU, 98 from the General Surgery ICU, 89 from the Neurosurgery ICU, and 87 from the Internal Medicine ICU).

Females are 40.37% of the subjects and 59.62% were male. Ages ranged from 18 to 73 years. More than half of the relatives were either the child or the spouse of the patient (58.9%). Nearly half of the relatives had previous ICU experience (49.9%). More than half of the relatives lived in the same city as the patient (66.7%). The education levels were; 38.2% primary school, 37.9% high school, 23.8% university. Almost all of the relatives were aware of the diagnosis (91.32%). The hospitalization period ranged from two days to 150 days.

It was determined that demographic data were not significantly related to the satisfaction score (p>0.05). There was a statistically significant relationship between the duration of hospitalization and all the scales (p<0.05) except for The Management of Patient Complaints (Subscale 3).

The presence of previous ICU experience had a statistically significant effect on The Management of Patient Complaints (Subscale

Table 2. The rotated component matrix following factor analysis, factor loads and Cronbach's alpha values of components

Items	Components			Factor load		Cronbach's alpha
	1	2	3	Explained variance percentage (%)	Cumulative variance percentage (%)	
1. How well ICU staff informed you what was happening to your family member and the reason things were being done?	0.792	0.256	0.235	50.120	50.120	0.918
2. The honesty of information provided to you about your family member's condition.	0.784	0.302	0.113			
3. The consistency of information provided to you about your family member's condition.	0.782	0.226	0.194			
4. How well the ICU staff provided you with explanations that you understood?	0.714	0.306	0.140			
5. Willingness of ICU staff to answer your questions.	0.693	0.431	0.174			
6. How often doctors communicated to you about your family member's condition?	0.658	0.323	0.292			
7. How satisfied were you with the level or amount of health care your family member received in the ICU?	0.611	0.443	0.085			
8. Do you believe that someone will call and inform you when there is a significant change in your patient's condition?	0.608	0.432	0.082			
9. How often nurses communicated to you about your family member's condition?	0.429	0.379	0.283			
10. The courtesy, respect and compassion you were given.	0.311	0.745	0.180			
11. How well the nurses cared for your family member?	0.355	0.724	0.134			
12. The teamwork of all the ICU staff who took care of your family member.	0.315	0.718	0.176	9.138	59.258	0.895
13. The courtesy, respect and compassion your family member (the patient) was given.	0.184	0.652	0.311			
14. Atmosphere of the ICU	0.345	0.616	0.079			
15. How well the ICU staff showed an interest in your need?	0.352	0.614	0.296			
16. How well doctors cared for your family member?	0.339	0.597	0.162			
17. How well the ICU staff provided emotional support?	0.316	0.558	0.398			
18. How well the ICU staff assessed and treated your family member's breathlessness?	0.160	0.156	0.897			
19. How well the ICU staff assessed and treated your family member's agitation?	0.157	0.229	0.894			
20. How well the ICU staff assessed and treated your family member's pain?	0.227	0.251	0.838	5.332	64.590	0.919

ICU: Intensive care unit

3) satisfaction scores (p<0.05). Previous ICU experience was positively correlated with the level of satisfaction (Fig. 1a).

It was seen that knowing the diagnosis of the patient had a statistically significant effect on satisfaction scores (p<0.05) (Fig. 1b).

Education level had a statistically significant effect on satisfaction scores except for the Management of Patient Complaints (Subscale 3). As the education level increased, the satisfaction level decreased (p<0.05) (Fig. 1c).

In the study, highest-ranking items were as follows:

The skills and competence of the ICU doctors (94.3%)

Table 3. The results of the reliability analysis

| | Measurements | | | |
	Measurement 1 Mean±SD	Measurement 2 Mean±SD	Comparison of measurements, p	Paired sample correlations
Total	52.09±18.92	51.78±18.79	0.197	0.996
Information and communication	24.45±9.74	24.43±9.67	0.871	0.996
The competency of the ICU personnel and the ICU setting	19.39±7.36	19.07±7.26	0.219	0.992
The management of patient complaints	8.25±3.52	8.27±3.43	0.868	0.971

SD: Standard deviation; ICU: Intensive care unit

The confidence that the treatment given to the patient is complete (92.7%)

The atmosphere of the intensive care unit, and the skills and competence of the ICU nurses (91.9%)

The courtesy, respect and compassion you were given (91.6%)

The coordination of care (90.8%)

Lowest-ranking items were as follows:

The atmosphere of the waiting room (35.5%)

The frequency of communication with ICU nurses (61%)

Whether the information given to the relative about the patient involves all topics the relative wants to be informed about or not (75.9%)

The management of agitation (76.2%)

Whether the patient's relative feels comfortable during the visit or not (78%)

The open-ended questions at the end of the scale generally included suggestions regarding the provided information and communication, the attitudes of the staff, the improvement of the physical conditions, and more flexible visiting hours.

DISCUSSION

This study is on the cross-cultural adaptation of a valid and reliable questionnaire that interested in family satisfaction in adult intensive care units. The main strengths of this study are that the FS-ICU 24 survey is valid and reliable with 20 questions in Turkish language and comprehensive testing, including face, content and construct validity.

According to the factor analysis of this study, three factors are extracted. In the original survey, Heyland et al. (1) extracted two factors, one factor is care subscale and the second factor is decision-making subscales. Also, Wall et al. determined two factors in their study (4). Stricker et al. (9) translated the original scale into German, they found two factors, but the first form of the survey, not FS-ICU 24 was used in that study. In the Norwegian study, Dale and Frivold determined two factors, but the items that belong to subscales are different from the original scale (10). Also, in a Chinese study, they have extracted three factors (11). Thus, we decided that different cultural properties may have an effect on the factor numbers and item belongings to subscales.

In this study, Cronbach's alpha value for the total is 0.946. This means that Turkish version is highly internally consistent. The original study and the other cross-cultural adaptation studies have similar Cronbach's alpha for total scale values with our study (1, 4, 9–11).

The areas that satisfy the relatives are as follows: skills and competence of doctors, nursing skills and the courtesy, respect and compassion you were given. In Heyland et al. (1) study and the Stricker et al. (9) study, relatives are also the most satisfied with nursing skills. The areas that dissatisfied the relatives are similar to these studies, too.

Hunziker et al. (12) demonstrated that living in the same city reduces satisfaction. In this study, subjects that lived out of town were higher satisfaction but not statistically significant.

A scale should include the diagnosis, duration of hospitalization because these factors may affect satisfaction (13). These measures are added the Turkish version. We found that satisfaction decreases with increased duration of hospitalization. We believe that this arises from their desperation that the patient will not be able to recover.

Khalaila et al. (14) found that level of education is negatively correlated with the level of satisfaction. We found that education level increased, the satisfaction levels decreased for all scales except the Management of the Patient's Complaints (Subscale 3). This can be explained by the notion that the better-educated people are more aware of the patients' and relatives' rights and require better quality of the information. The reason that there was no significant difference in The Management of Patient Complaints (Subscale 3) may be caused by the contents of the questions. Thus, the evaluation of this subscale content may require advanced medical knowledge.

The studies have determined that one of two basic needs trusts the competency of the healthcare providers (5, 15). Competency and skills of the doctors had the highest satisfaction level in this study. This is satisfactory for us to have a high level of confidence in the competency of the doctors who provide medical care. Several studies have found that one of the highest levels of satisfaction concerns the competency and skills of nurses (1, 8, 9). Our study determined that satisfaction with the competencies and skills of nurses was high. This can be explained by nurses undergo ICU orientation education before start ICU working.

Various studies have investigated the emotional stress and needs of family members in the ICU. A recent study has shown family

distress up to 12 months post ICU and identified that family members reported high levels of post-traumatic stress during ICU admission but decreased after six months (16). Authors recommend that health care professionals must support family members' hope. Throughout the whole intensive care process, kindness, respectfulness and compassion to family members, adequate communication, proper decision-making process are vital to the psychological status of relatives, prevention from post-traumatic stress disorder and satisfaction level (17, 18). We had high satisfaction levels in this context.

Studies have indicated that frequency of communication is one of the parameters that have the least satisfaction (1, 3, 8, 9). Increasing the frequency of doctor-patient communication frequency is one of the factors that can improve the general level of satisfaction (3, 19–21). A study showed that meeting with the doctor at least once a day is one of the ten important needs (14). The satisfaction level regarding communication with the doctor was good in this study. This can be attributed to daily visits of doctors at determined times and that the doctor provides one-on-one information to the relatives.

Azoulay et al. (22) found that the doctor should spend more time with relatives when providing information, which should be consistent and clear to improve satisfaction (16). Satisfaction is affected from the difference between the expectation and the meeting these expectations in reality. Thus, it is critical to inform families about the process and the results of critical care to optimize the expectations of the relatives (13, 18). Information should be clear. Azoulay et al. (6) emphasized that the healthcare provider should evaluate the relative's understanding of the information and assess the reasons for the incomprehension.

Previous studies had found that the waiting room setting satisfaction to be either poor or moderate (1, 3, 4, 9, 12, 23). Heyland et al. (1) reported that the lowest satisfaction scores belonged to the waiting room; however, improvement of waiting room conditions did not improve the satisfaction results. Hunziker et al. (12) found that setting of the waiting room is an independent factor. This emphasizes the importance of physical condition. The study in which the number of FS-ICU questions was reduced from 34 to 24, the waiting room setting has the lowest Cronbach's alpha with 0.43 (4). Our findings are compatible with these results (Cronbach's alpha: 0.36 in our study). As this coefficient was lower than 0.4, it was excluded from our version to increase the strength of the scale.

Schwarzkopf et al. (24) showed that information from nurses had lower reliability and completeness when it was obtained from doctors. Davidson et al. (15) recommended limiting the number of people providing information. Given that obtaining information from nurses was limited in our units to keep the information consistent, frequency of communication with nurses was found low in our study.

The successful treatment of the pain, anxiety and dyspnea is critical to the patient's satisfaction and relative's satisfaction. Akıncı et al. (25) found that the satisfaction was higher who had previous ICU experience. The reason may be experienced relatives are more prepared and know what to expect for a patient in ICU. Our study determined that the satisfaction rate was higher for the Management of Patient Complaints (Subscale 3) with the relatives who had previous ICU experience.

A recent approach is family-centered care in intensive care units. The interest in family-centered care has increased over the years and guidelines have been published (26–28).

There are country-specific valid surveys for testing family-centered care intervention and interest in this issue is increasing (7, 29).

Limitations of this Study
One center data collection of this study may be considered a limitation, but this study provides relevant and valuable information about the psychometric properties of the Turkish version of the scale. The original survey was designed in Canada, and the cultural impact should be considered.

One of the limitations of our study is that relationships of patient relatives' satisfaction with parameters, such as the diagnosis, prognosis and APACHE II, could not be studied. However, our main aim was to help the patients' relatives to feel comfortable and answer the questions objectively. Thus, the survey in this study was applied without inquiring who the relative's patient was.

CONCLUSION
In this study, the translated Turkish version of the FS-ICU-24 questionnaire was shown to be a reliable instrument concerning consistency and homogeneity, for measuring family satisfaction with the care in ICUs. The psychometric testing results suggest that the included items are suitable and appropriate for measuring family satisfaction in ICUs in the Turkish population.

Even though the general satisfaction of the patients' relatives was high, we believe that it can be increased by improving the physical conditions and by training all ICU personnel on communication skills.

REFERENCES

1. Heyland DK, Rocker GM, Dodek PM, Kutsogiannis DJ, Konopad E, Cook DJ, et al. Family satisfaction with care in the intensive care unit: results of a multiple center study. Crit Care Med 2002; 30(7): 1413–8.
2. Rothen HU, Stricker KH, Heyland DK. Family satisfaction with critical care: measurements and messages. Curr Opin Crit Care 2010; 16(6): 623–31. [CrossRef]

3. Stricker KH, Kimberger O, Schmidlin K, Zwahlen M, Mohr U, Rothen HU. Family satisfaction in the intensive care unit: what makes the difference?. Intensive Care Med 2009; 35(12): 205–9. [CrossRef]

4. Wall RJ, Engelberg RA, Downey L, Heyland DK, Curtis JR. Refinement, scoring, and validation of the Family Satisfaction in the Intensive Care Unit (FS-ICU) survey. Crit Care Med 2007; 35(1): 271–9. [CrossRef]

5. Wasser T, Pasquale MA, Matchett SC, Bryan Y, Pasquale M. Establishing reliability and validity of the critical care family satisfaction survey. Crit Care Med 2001; 29(1): 192–6. [CrossRef]

6. Azoulay E, Chevret S, Leleu G, Pochard F, Barboteu M, Adrie C, et al. Half the families of intensive care unit patients experience inadequate communication with physicians. Crit Care Med 2000; 28(8): 3044–9. [CrossRef]

7. Thermaenius J, Schandl A, Sluys KP. Development and initial validation of the Swedish Family Satisfaction Intensive Care Questionnaire (SFS-ICQ). Intensive Crit Care Nurs 2019; 50; 118–24. [CrossRef]

8. Heyland DK, Tranmer JE; Kingston General Hospital ICU Research Working Group. Measuring family satisfaction with care in the intensive care unit: the development of a questionnaire and preliminary results. J Crit Care 2001; 16(4): 142–9. [CrossRef]

9. Stricker KH, Niemann S, Bugnon S, Wurz J, Rohrer O, Rothen HU. Family satisfaction in the intensive care unit: cross-cultural adaptation of a questionnaire. J Crit Care 2007; 22(3): 204–11. [CrossRef]

10. Dale B, Frivold G. Psychometric testing of the Norwegian version of the questionnaire Family Satisfaction in the Intensive Care Unit (FS-ICU-24). J Multidiscip Healthc 2018; 11: 653–9. [CrossRef]

11. Lai VKW, Li JC, Lee A. Psychometric validation of the Chinese patient- and family satisfaction in the intensive care unit questionnaires. J Crit Care 2019; 54: 58–64. [CrossRef]

12. Hunziker S, McHugh W, Sarnoff-Lee B, Cannistraro S, Ngo L, Marcantonio E, et al. Predictors and correlates of dissatisfaction with intensive care. Crit Care Med 2012; 40(5): 1554–61. [CrossRef]

13. Dodek PM, Heyland DK, Rocker GM, Cook DJ. Translating family satisfaction data into quality improvement. Crit Care Med 2004; 32: 1922–7. [CrossRef]

14. Khalaila R. Patients' family satisfaction with needs met at the medical intensive care unit. J Adv Nurs 2013; 69(5): 1172–82. [CrossRef]

15. Davidson JE, Powers K, Hedayat KM, Tieszen M, Kon AA, Shepard E, et al. Clinical practice guidelines for support of the family in the patient-centered intensive care unit: American College of Critical Care Medicine Task Force 2004–2005. Crit Care Med 2007; 35: 605–22.

16. Alfheim HB, Hofsø K, Cvancarova Småstuen M, Tøien K, Rosseland LA, RustøenT. Post-traumatic stress symptoms in family caregivers of intensive care unit patients: a longitudinal study. Intensive Crit Care Nurs 2019; 50: 5–10. [CrossRef]

17. de Lima Neves J, Schwartz E, Echevarría-Guanilo ME, Guidorizzi Zanetti AC, Heyland D, de Lima Spagnolo LM. Cross-cultural adaptation of the family satisfaction withcare in the intensive care unit for Brazil. Cienc Cuid Saude 2018; 17(4): e45069.

18. dos Santos ES, Gastaldi AB, Montezeli JH, Garanhani ML. Acolhimento e processo educativo em saúde a familiares de pacientes internados em UTI adulto/Receptional and education process in health to family members patients boarding in adult ICU. Cienc Cuid Saude 2016; 15(4): 639–46. [CrossRef]

19. Fumis RR, Nishimoto IN, Deheinzelin D. Families' interactions with physicians in the intensive care unit: the impact on family's satisfaction. J Crit Care 2008; 23(3): 281–6. [CrossRef]

20. Roberti SM, Fitzpatrick JJ. Assessing family satisfaction with care of critically ill patients: a pilot study. Crit Care Nurse 2010; 30(6): 18–27.

21. Dodek PM, Wong H, Heyland DK, et al. The relationship between organizational culture and family satisfaction in critical care. Crit Care Med 2012; 40(5): 1506–12. [CrossRef]

22. Azoulay E, Pochard F, Chevret S, Lemaire F, Mokhtari M, Le Gall JR, et al; French FAMIREA Group. Meeting the needs of intensive care unit patient families: a multicenter study. Am J Respir Crit Care Med 2001; 163(1): 135–9. [CrossRef]

23. Min J, Kim Y, Lee JK, Lee H, Lee J, Kim KS, et al. Survey of family satisfaction with intensive care units: A prospective multicenter study. Medicine (Baltimore) 2018; 97(32): e11809. [CrossRef]

24. Schwarzkopf D, Behrend S, Skupin H, Westermann I, Riedemann NC, Pfeifer R, et al. Family satisfaction in the intensive care unit: a quantitative and qualitative analysis. Intensive Care Med 2013; 39(6): 1071–9. [CrossRef]

25. Akıncı SB, Salman N, Kanbak M, Aypar Ü. Yoğun bakımda aile memnuniyetinin değerlendirilmesi. Turk J Anaesthesiol Reanim 2004; 32: 130–8.

26. Davidson JE, Aslakson RA, Long AC, Puntillo KA, Kross EK, Hart J, et al. Guidelines for Family-Centered Care in the Neonatal, Pediatric, and Adult ICU. Crit Care Med 2017; 45(1): 103–28.[CrossRef]

27. Burns KEA, Misak C, Herridge M, Meade MO, Oczkowski S; Patient and Family Partnership Committee of the Canadian Critical Care Trials Group. Patient and Family Engagement in the ICU. Untapped Opportunities and Underrecognized Challenges. Am J Respir Crit Care Med 2018; 198(3): 310–9. [CrossRef]

28. Gerritsen RT, Hartog CS, Curtis JR. New developments in the provision of family-centered care in the intensive care unit. Intensive Care Med 2017; 43(4): 550–3. [CrossRef]

29. Turan T, Erdoğan Ç, Serap Ceylan S. The validity and reliability study of Turkish version of the fathers' support scale: Neonatal intensive care unit. Intensive Crit Care Nurs 2019; 50: 125–30. [CrossRef]