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Assessment of Family Satisfaction in Anesthesiology and Reanimation Intensive Care Unit

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ABSTRACT

Objective: To assess family satisfaction in the intensive care unit with a validated family satisfaction survey.

Matherials and Methods: With the ethical commitee approval, family satisfaction survey was applied to family members of 553 patients admitted in Anestesiology and Reanimation Intensive Care Units. 133 family members who meet the inclusion criteria were included in the study. Patients' age, educational status, health insurance, additional diseases, cause of admission, duration of stay, coma status, mechanichal ventilation need and cardiopulmoner resutation need was recorded. Family members' age, sex and relationship with the patient were recorded. Also family members were asked to specify who gave them information about the patient along with how many times and for how long they visited the patient. Acute physiology and chronic health evaluation Scores of the patients were recorded in the first twenty-four hours of admission. A survey combined from two verified forms were used to assess family satisfaction.

Results: Family members of patients that differ in the means of socio-cultural status, diagnosis, treatment plans and prognosis were highly satisfied (%86,4) from the ICU care. Family members were most satisfied . The most satisfactory subjects were identified as "proximity", "comfort" and "trust".

Conclusion: In order to increase family satisfaction in our ICU, visiting hours can be increased in order to provide more closeness to the family members. Family members can also benefit from a more comfortable environment. Family meetings can be arranged at given intervals.

Keywords: Communication, family, satisfaction, care goals

Background

Intensive care units are defined as hospital units that give 24 hours continuous care for seriously ill patients with vital organ deficiencies that causes life threatening dysfunctions, until the primary cause is eliminated and the patient is stable. ICU patients are at more risk compared to other patient groups in terms of clinical properties and prognosis (1). Considering the alterations in general condition and consciousness of the patients, family members have an important role in decision and maintenance of treatment of the patients (2). Patients and their families should be considered as a whole in the treatment process.

One of the most important duties of the ICU doctors is to give family members clear information about their patient and to treat the family members with compassion (3). Assessing the needs of the family members gives critical information about improving family satisfaction and decision making capacity of the families (4).

Meeting the needs of family relatives and family satisfaction levels are considered as the most important variables of improved quality of care (5). Communication between the family members and the caregivers is essential and meeting the need to be "informed" is an important branch of communication (1,7,8,9).

In this study, we aimed to assess family satisfaction in our intensive care units using a valid satisfaction assessment survey.

Material and Methods

With the ethical committee approval, family members of the patients who are admitted from external facilities, in-hospital wards or for post anesthesia care are planned to be included in the study. Family satisfaction survey was applied to those who stayed for more than 24 hours in the ICU. Patients who stayed for less than 24 hours, are pregnant, cannot speak the native language of

the caregivers or has a psychiatric condition were excluded from the study. The medical condition of the patient and the physical and psychiatric coherence of the family members were considered and the survey was applied at the first convenient visiting hour accordingly.

Patients' age, educational status, medical insurance, marital status, additional diseases, cause of admission, duration of stay, coma status, mechanical ventilation need; whether the ICU admittance is planned or emergent and whether CPR is performed or not are noted. Age, sex, relativity of the family members along with the times and duration of visitation are also noted. Patients' APACHE II scores were determined in the first 24 hours of stay (10).

Two validated forms were used to assess family satisfaction. The first form was specifically designed for ICU patients' family members (11,12). This questionnaire was translated to Turkish Language by Akıncı et al and following validity and credibility study's authors used this form in family satisfaction evaluations in the ICU (2). The second form is the critical care family needs inventory, validated by Molters et al. A questionnaire was prepared using these two forms combined and family members were asked to fill this if they agree to (Form 1).

There are 25 questions in the family satisfaction assessment form about information (whether the families were informed realistically and in time about the patients' condition), trust (whether there is confidence that the patients' condition will improve), closeness (whether family members can be physically and emotionally available for their patient), support (emotional support and assistance for the family members) and comfort (personal comfort of the families). Family members were asked to answer these questions: a) always, b) most of the time (1 points), c)sometimes, d) never (0 points). Points for the 25 questions were added up to obtain a total satisfaction score (0-25 points). Information subgroup scores from questions 12 to 17; trust subgroup scores from questions 6-11; closeness subgroup scores from questions 1-5; comfort subgroup scores from questions 24 and 25 and support subgroup scores from questions 18-23 were added up and divided to the respective subgroup number of questions.

Data analysis were made using SPSS for Windows 11.5. Kolmogorov Smirnov test was used to determine whether the distribution of discrete numeric variables was normal. Definitive statistics for discrete numeric variables were defined as mean + standard deviation or median (lowest – highest), categorical variables were represented as number of cases and percentages.

For each subscale and scale total score level, raw scores were calculated by first considering the original scores. Raw scores were considered then to convert the fore mentioned scores to a system of 100. For each sub-dimension and scale overall score, the raw scores obtained from the relatives of the patients were subtracted from the lowest possible raw score. The result obtained was proportioned to the highest possible and lowest possible raw score difference and then multiplied by 100. The calculation is obtained by the following formula:

[(Raw score - lowest possible score) / (highest possible score - lowest possible score)] x 100

FAMILY SATISFACTION INQUIRY FORM

DEMOGRAPHICS

SEX: MALE: ☐ FEMALE: ☐

AGE
a) 18-24 b) 25-34 c) 35-60 d) over 60

NUMBER OF DAYS YOUR PATIENT STAYED IN ICU
a) 0-3 b) 4-7 c) 8-10 d) over 10

WHAT IS YOUR RELATION TO THE PATIENT?
a) Spouse b) father c) mother d) child e) sibling f) other

WHOM DID YOU RECEIVE INFORMATION ABOUT THE PATIENT?
a) doctor b) nurse c) doctor and nurse d) patient care taker e) cleaning personnel

HOW MANY TIMES DID YOU VISIT YOUR PATIENT DURING THE ICU STAY?
a) none b) 1-3 c) 4-7 d) 7-10 e) over 10

HOW LONG WAS THE DURATION OF YOUR VISITATIONS?
a) 1-3 min b) 3-5 min c) 5-7 min d) 7-10 min e) over 10 min

1. WERE YOU INFORMED ABOUT THE INTERVENTIONS, DIAGNOSTIC PROCESSES AND TREATMENTS CONCERNING YOUR PATIENT?
a) almost all the time b) most of the time c) sometimes d) never

2. DID YOU THINK THAT YOU HAD THE OPPORTUNITY TO TALK TO YOUR PATIENT'S DOCTOR IN A REGULAR MANNER?
a) almost all the time b) most of the time c) sometimes d) never

3. DO YOU BELIEVE THAT ALL THE DECISIONS CONCERNING YOUR PATIENT SHOULD BE DISCUSSED WITH YOU?
a) almost all the time b) most of the time c) sometimes d) never

4. WERE YOU SATISFIED WITH THE NOISE LEVEL OF THE ICU?
a) almost all the time b) most of the time c) sometimes d) never

5. WERE PATIENT VISITATIONS IN THE ICU COMFORTABLE FOR YOU?
a) almost all the time b) most of the time c) sometimes d) never

6. WERE YOU SATISFIED WITH THE DURATION OF DIAGNOSIS PROCESSES AND PERSONNEL'S REACTION TIME FOR EMERGENCY SITUATIONS OR ASSISTANCE REQUESTS?
a) almost all the time b) most of the time c) sometimes d) never

7. DO YOU BELIEVE THAT THE ICU PERSONNEL PROVIDES HONEST INFORMATION ABOUT YOUR PATIENT?
a) almost all the time b) most of the time c) sometimes d) never

8. WERE YOU SATISFIED WITH THE ATTENTION OF THE NURSES?
a) almost all the time b) most of the time c) sometimes d) never

9. DO YOU BELIEVE THAT YOU WILL RECEIVE A CALL IN CASE OF A CHANGE IN YOUR PATIENT'S CONDITION?
a) almost all the time b) most of the time c) sometimes d) never

10. DO YOU FEEL THAT THE ICU PERSONNEL GIVES ENOUGH ATTENTION TO YOUR PATIENT?
a) almost all the time b) most of the time c) sometimes d) never

11. ARE YOU SATISFIED WITH THE MEDICAL CARE YOUR PATIENT RECEIVES?
a) almost all the time b) most of the time c) sometimes d) never

12. WERE THE INFORMATION GIVEN REGARDING THE MEDICAL INTERVENTIONS AND THEIR REASONS ADEQUATE?
a) almost all the time b) most of the time c) sometimes d) never

13. WERE YOU ABLE TO UNDERSTAND THE GIVEN INFORMATION ABOUT THE PATIENT'S CONDITION?
a) almost all the time b) most of the time c) sometimes d) never

14. WERE YOU ABLE TO RECEIVE CLEAR ANSWERS TO YOUR QUESTIONS?
a) almost all the time b) most of the time c) sometimes d) never

15. WERE YOU PLEASED TO BE INVOLVED IN THE CARE PROCESS OF YOUR PATIENT?
a) almost all the time b) most of the time c) sometimes d) never

16. DID YOU FIND THE VISITATION HOURS TO BE SUFFICIENT?
a) almost all the time b) most of the time c) sometimes d) never

17. WERE YOU SATISFIED WITH THE ATTENTION REGARDING PATIENT PRIVACY?
a) almost all the time b) most of the time c) sometimes d) never

18. DID YOU HAVE THE OPPORTUNITY TO TALK TOU YOUR PATIENT'S NURSE REGULARLY?
a) almost all the time b) most of the time c) sometimes d) never

19. WERE YOU SATISFIED WITH THE DOCTOR'S ATTENTION REGARDING YOUR PATIENT'S NEEDS?
a) almost all the time b) most of the time c) sometimes d) never

20. WERE THE ICU PERSONNEL'S BEHAVIOUR RESPECTFUL TOWARDS YOU?
a) almost all the time b) most of the time c) sometimes d) never

21. WERE YOU SATISFIED WITH THE QUALITY OF CARE?
a) almost all the time b) most of the time c) sometimes d) never

22. WERE YOU SATISFIED WITH THE COURAGE AND SUPPORT PROVIDED FOR YOU IN THE ICU?
a) almost all the time b) most of the time c) sometimes d) never

23. WERE YOU CONTENT WITH THE PREPERATIONS MADE DURING THE ICU RELEASE PROCESS?
a) almost all the time b) most of the time c) sometimes d) never

24. WERE YOU SATISFIED WITH THE APPEARANCE AND CLEANLINESS OF THE WAITING ROOMS?
a) almost all the time b) most of the time c) sometimes d) never

25. WERE YOU SATISFIED WITH THE COMFORT OF THE WAITING ROOMS?
a) almost all the time b) most of the time c) sometimes d) never

DO YOU HAVE ANY SUGGESTIONS REGARDING THE ICU INFORMATION PROCESSES AND YOUR ICU VISITS? YOU MAY MENTION THE NAMES OF THE PERSONNEL WHOSE ATTENTION AND BEHAVIOUR WERE ESPECIALLY SATISFACTORY FOR YOU.

In accordance with the calculations above, the frequency distributions of the scores were obtained according to the system of 100 for each subscale and overall scale scores. Since the scores obtained by more than half of the patient's relatives for each subscale and scale-general were 80 and higher, 80 points were accepted as the cut-off point for each subscale and scale-general according to the 100-point system. Statistical evaluations were made according to 80 cut-off points.

The significance of the difference between the groups in terms of mean values was examined by Student's t test and the significance of the difference in terms of median values was examined by Mann Whitney U test. Categorical variables were evaluated by Pearson's Chi-Square, Fisher's Exact Chi-Square or Likelihood Ratio tests.

Multivariate Logistic Regression Analysis was used to determine the most important factor or factors in distinguishing the family members who received less than 80 points in terms of subscales and total score and those who scored 80 points or higher. As a result of univariate test statistics, the variables determined as p <0.25 were included in the multivariate logistic regression models as candidate factors. In addition, odds ratio and 95% confidence intervals were calculated for each variable.

Results were considered statistically significant for p <0.05.

Results

Family members of a total of 553 patients were included in the study and a family satisfaction questionnaire was planned to be applied to the family members. 33 of the subjects did not return the given form, 317 of them had a patient who stayed in the ICU for less than 24 hours and 59 of them stated that they did not want to participate in the study. 3 family members did not speak the native language Turkish and 8 patients were pregnant, therefore excluded from the study. A total of 133 family members were included in the study overall.

Definitive statistics related to patients and family members are shown in Table 1 and Table 2.

Tablo 1. Demographic and Clinical Characteristics of Patients

Variables	N:133
Age (year)	39,1±23,7
Education Status	
İlliterate	25 (%18,8)
Primary Education	64 (%48,1)
High School	24 (%18,0)
University	20 (%15,0)
Social Security	
Not	4 (%3,0)
SGK	126 (%94,7)
private health insurance	3 (%2,3)
Marital status	
Married	80 (%60,2)
Single	47 (%35,3)
widow	6 (%4,5)
Additional Disease	
Not	34 (%25,6)
One	41 (%30,8)
Two	28 (%21,1)
Three	30 (%22,6)
Admission to the ICU	
Emergency	45 (%33,8)
Planned	88 (%66,2)
Length of Stay in the ICU (Day)	2 (1-25)
APACHE Scor	11 (1-40)
Reason for Admission to the ICU	
Respiratory	42 (%31,6)
cardiovascular	10 (%7,5)
Neurogenic	3 (%2,3)
Sepsis	1 (%0,8)
Another	77 (%57,9)
CPR	3 (%2,3)
Coma	1 (%0,8)
Mekanik Ventilatör	28 (%21,1)

Tablo 2. Demographic and Clinical Characteristics of Patient Relatives

Variables	N:133
Gender	
Male	70 (%52,6)
Female	63 (%47,4)
Age	
18-24 year	9 (%6,8)
25-34 year	39 (%29,3)
35-60 year	79 (%59,4)
>60 year	6 (%4,5)
Length of Stay in the İCU (Day)	
0-3 day	114 (%85,7)
3-7 day	13 (%9,8)
7-10 day	2 (%1,5)
>10 day	4 (%3,0)
Degree of Family Proximity	
Partner	27 (%20,3)
First Degree Relative	100 (%75,2)
Another	5 (%3,8)
The Number of Visitors	
Any	6 (%4,5)
1-3 Times	86 (%64,7)
4-7 Times	17 (%12,8)
7-10 Times	8 (%6,0)
>10 Times	16 (%12,0)
Vizit Time	
1-3 minute	66 (%49,6)
3-5 minute	32 (%24,1)
5-7 minute	17 (%12,8)
7-10 minute	4 (%3,0)
>10 minute	13 (%9,8)
Received İnformation From	
Doctor	37 (%27,8)
Nurse	13 (%9,8)
Doctor + Nurse	82 (%61,7)
Sick Nurse	1 (%0,8)

Tablo 3. Frequency Distribution in Terms of Responses of Patient Relatives to Questions

	Almost Always		Most of the Time		OnlySome Times		Never	
	N	%	N	%	N	%	N	%
question 1	65	48,9	39	29,3	29	21,8		
question 2	39	29,3	51	38,3	40	30,1	3	2,3
question 3	37	27,8	23	17,3	58	43,6	15	11,3
question 4	91	68,4	29	21,8	12	9,0	1	0,8
question 5	74	55,6	42	31,6	15	11,3	2	1,5
question 6	86	64,7	40	30,1	6	4,5	1	0,8
question 7	97	72,9	22	16,5	13	9,8	1	0,8
question 8	70	52,6	37	27,8	21	15,8	5	3,8
question 9	59	44,4	54	40,6	18	13,5	2	1,5
question10	70	52,6	49	36,8	12	9,0	2	1,5
question11	73	54,9	47	35,3	12	9,0	1	0,8
question12	97	72,9	28	21,1	8	6,0	-	-
question13	101	75,9	27	20,3	5	3,8	-	-
question14	103	77,4	28	21,1	1	0,8	1	0,8
question15	92	69,2	35	26,3	6	4,5	-	-
question16	48	36,1	41	30,8	26	19,5	18	13,5
question17	99	74,4	26	19,5	7	5,3	1	0,8
question18	90	67,7	35	26,3	7	5,3	1	0,8
question19	67	50,4	52	39,1	13	9,8	1	0,8
question20	85	63,9	40	30,1	6	4,5	2	1,5
question21	81	60,9	39	29,3	11	8,3	2	1,5
question22	81	60,9	41	30,8	8	6,0	3	2,3
question23	84	63,2	43	32,3	5	3,8	1	0,8
question24	62	46,6	50	37,6	18	13,5	3	2,3
question25	57	42,9	47	35,3	20	15,0	9	6,8

The suggestions made by the family members were as follows: 82 (61.7%) relatives did not make any suggestions, 43 (32.3%) thanked the health personnel, 1 (0.8%) requested psychologic support, 5 (3.8%) requested more information and time, and 2 (1.5%) family members requested to be given information over the phone.

The frequency distributions of the responses of the family members to the questions in the questionnaire are presented in Table 3.

The most satisfactory subgroups were found to be support and information, while the least satisfactory subgroups were closeness, comfort and trust respectively (Table 4).

According to multivariate logistic regression analysis, the only statistically significant factor was admission to the ICU in emergency conditions. When the corrections were made according to other factors, it was observed that the probability of receiving scores of 80 or more from the closeness subgroup were increased 2,539 times if the patient was admitted to the ICU in emergent conditions (95% Confidence Interval: 1.003-6.429) (p = 0.049).

Tablo 4. Frequency Distribution in Terms of Sub-Dimension and Total Scores of Patient Relatives According to 100-System

Variables	Score <80	Score ≥80
Relationship	46 (%34,6)	87 (%65,4)
Trust	29 (%21,8)	104 (%78,2)
İnformation	13 (%9,8)	120 (%90,2)
Support	12 (%9,0)	121 (%91,0)
Comfort	38 (%28,6)	95 (%71,4)
Total	26 (%19,5)	107 (%80,5)

According to the multivariate logistic regression analysis, it was found that the most determinant factor in the comfort subgroup was the educational status of the patient. As the education level of the patient increased, the probability of getting a higher score from the comfort dimension of the family members decreased (OR: 0.510; 95% Confidence Interval: 0.356-0.848; p = 0.009). It was also found to be statistically significant to be admitted in ICU in emergency conditions, and when the correction was made according to other factors, it was seen that the probability of getting scores 80 and above from comfort sub-dimension increased 3,668 times of those who were in ICU for emergency reasons (95% Confidence Interval: 1,280-10,512) (p = 0.016). Finally, not being connected to mechanical ventilator was found to be a statistically significant factor and when corrections were made, it was observed that the probability of getting 80 points or more from comfort sub-dimension was increased by 2,723-fold (95% Confidence Interval: 1,044-7,098) in family members whose patients were not mechanically ventilated (p = 0.040).

Discussion

Several variables have been identified that increase the quality of intensive care, along with the need to continuously improve the quality of care of ICUs. Meeting the needs of sick family members is considered one of the most important variables (5).

In our study; 96.2% of the family members answered the question "Are you satisfied with the medical care your patient received?" as almost always or most of the time. Similarly, 98.5% of the family members answered the question "Are you satisfied with the quality of care given to your patient?" as almost always or most of the time. These percentages are higher than most of the family satisfaction levels in the literature (5, 13, 14). By designing the study in the form of a questionnaire instead of a face to face interview, we tried to ensure that family members were objective and we tried to avoid to cause the family members to think that if they answer the questions somewhat negatively, the treatment of their patients may get affected.

Sharing information about the patient's prognosis and making sure that family members understand the situation is an important communication skill for the ICU physician (15). In their study, White et al. found that doctors rarely asked the patients' family members if they were ready to talk about prognosis; also the physicians rarely check whether the family understood the situation of the patient fully when they were informed about the

prognosis (16). Mack et al. found no evidence that explaining the prognosis to family members either disrupted the family's hopes or decreased their expectations (17). In our study, 94.8% of the family members responded positively to the question "Do you believe that ICU staff provide honest information about your patient's condition?". Explaining decisions about the patient and explaining the prognosis and treatment in a comprehensible language are effective in the high satisfaction scores (88.2%) obtained from the trust subgroup in this study.

In the study of Bijttebier et al., it was emphasized that the most important requirement for family members is information (1). Helping the family in terms of physical comfort and other personal needs such as shelter, transportation and financial support will reduce the stress experienced by the family members (18). In our study 6.8% of the participants were not satisfied about the waiting room conditions where as 11.3% stated that visiting the ICU is never comfortable. These findings are consistent with the study of Molter that emphasizes the personal needs of family members (4). Physical presence for the patient was also identified as a requirement for family members (19). In our study, 13.5% of the participants stated that they did not find the patient visiting hours sufficient in the intensive care unit. Being unable to see their patients at any time may cause anxiety for the family members.

A previous study was made by Akıncı et al. in the same intensive care units as our study. We saw that family satisfaction scores were higher in this study compared to the previous one [2]. New arrangements that were made according to the results of that study were seem to be effective in improving family satisfaction scores as well.

There is still debate about patient visits (20, 21, 22). There are some studies suggesting that frequent visits may exhaust the patient, consume time and energy of the staff, cause confusion, prevent care and medical treatment, prevent the privacy of other patients and create security problems (20, 23). In our ICU visiting hours are between 13 p.m. -14 p.m. and one person at a time is allowed. Apart from these routine visits, family members can be contacted by telephone for acute changes (intubation, extubation, mobilization, revision, discharge, death) or urgent requests. Since the satisfaction scores were lower in the closeness subgroup it is obvious that the family members are not satisfied with this application. Increasing visiting hours can increase the satisfaction of both the patient and family members, but the specific conditions of intensive care units and the health of patients should not be compromised.

Limitations of the study

The general status of the patients is variable and the discharge period is long. In order to obtain more realistic results, more and more long-term surveys are required.Since many different parameters affect the level of satisfaction, the effectiveness of the studies with more variable parameters will be more.

Conclusion

In our study evaluating family satisfaction, which is an indicator of ICU quality, we found that family members of patients with diagnosis, treatment and prognosis at different sociocultural levels were very satisfied with the care given in our intensive care unit. Increasing the visiting hours and keeping the family members closer to their patients will increase the service quality of our intensive care unit. Furthermore, we believe that family satisfaction can be increased by creating a comfortable space for patient relatives and organizing family interviews with family members.

AUTHOR CONTRIBUTIONS:

Concept: AAE, SBA; **Design:** AAE, SBA; **Supervision:** AAE, SBA, AGP; **Fundings:** AAE, AGP; **Materials:** AAE, ESA, BK; **Data Collection and/or Processing:** AAE, ESA; **Analysis and/or Interpretation**: BK, AGP; **Literature Search:** AAE, AGP; **Writing Manuscript**: AAE; **Critical Review:** SBA.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Hacettepe University (Approval Date: 2012).

Informed Consent: Written informed consent was obtained from relatives of patients or patients who participated in this study.

Peer-review: Externally peer-reviewed.

Conflict of Interest: Authors have no conflicts of interest to declare.

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