

Original Article

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What Can We Do to Improve Patient Satisfaction in the Emergency Department? A Prospective Study in a Turkish University Hospital

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Abstract

Introduction: In recent years, patients' satisfaction with emergency medical services provided to them has been one of the main criteria in the evaluation of the quality of these services.

Objective: The goal of our study was to determine the factors that affect the satisfaction of patients admitted to the emergency department (ED) and to provide new regulations.

Methods: This prospective and descriptive study included 341 patients who utilized the ED services of a university hospital between October 1, 2004, and June 30, 2005. The patients' demographic and visit characteristics, waiting times, and the total duration of stay in the ED were noted in the prepared questionnaire. In addition, all patients were asked to indicate their level of satisfaction with the care received in the ED based on a five-point Likert scale. The results were analyzed using ANOVA, chi-square, and logistic regression tests.

Results: Of the 341 patients, 219 (64.2%) were satisfied with the care they had received in the ED. Factors such as doctor and nurse behavior, medical information, the frequency of doctors and nurses visits, the ease of access to personnel, the cleanliness of the ED, and the availability of technical equipment had a statistically significant effect on the overall satisfaction of the patients ($p < 0.05$).

Conclusion: The quality of patient care provided and the features of the ED determine the patients' satisfaction with the ED services.

Key words: Emergency medical service; Patient care; Quality

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INTRODUCTION

There are different descriptions of patient satisfaction. One of the most appropriate definitions for the present time is "to meet or exceed the expectations of the patients in treatment and care" (1). Patient satisfaction is a subjective perception but is considered to be the most important indicator of the quality of health care and has become a highly emphasized concept in the literature regarding emergency care (2, 3). Most of the existing resources focus on the effects of personal variables such as presenting symptoms, patient education, waiting times, and perception of technical competence on patient satisfaction (4, 5). However, studies have shown that the waiting time in the emergency department (ED), providing information about the operation of the ED and waiting times, properties of provided care, and special interest and closeness toward patients, rather than patients' characteristics, significantly increase patients' satisfaction (6-10).

Patient satisfaction is an important objective in

providing emergency services and is a marker of the quality of emergency care given in the ED. However, the main factors affecting patient satisfaction in the ED are not yet fully understood. This study aimed to determine the factors that affect patient satisfaction by evaluating the satisfaction level of patients admitted to the ED and to create a foundation for future arrangements of those factors.

METHODS

Study design

This prospective descriptive study was conducted from October 1, 2004, to June 30, 2005, in Balcali Hospital, Adana, Turkey. This hospital has an ED with an annual average of 40,000 emergency visits. This study was approved by the ethics committee of Cukurova University. Informed consent was obtained from the patients and patients' relatives who participated in this study.

Study population

Patients who were at least 14 years of age and came to the ED during the study period were included. Patients with loss of consciousness, with factors preventing communication, those who required emergency treatment, and those who did not consent were excluded from the study.

Data gathering

Before the study, participating intern doctors and unit employees were informed about the study. A survey was used in the study. It was formed in collaboration with the research team and staff based on the demographic and visit characteristics of the patients, global satisfaction parameters which were found in the literature including the waiting time, and perceived care (2, 10-12).

Intern doctors made the initial assessment of the patients and, then, notified an emergency physician. After triage, the first section of the prepared patient satisfaction survey regarding the patient's demographic data, method and time of arrival to the ED, and the number of ED visits were filled. The time and duration of the physical examination; registration process; if admitted, the waiting time for admission to the hospital; and the total length of stay in the ED were noted in the appropriate section of the form. The patients' emergency treatment and care were not interfered with or delayed due to the filling of the form.

The second part of the survey was completed after the emergency service care was provided. The survey was conducted by a doctor who was not involved in the emergency care and treatment of the patients. In this section, the patients were asked questions related to the following: previous visits to the ED, difficulties encountered during the ED visit, satisfaction with the nurses' and doctors' behavior, information provided about the patient's condition and treatment, the ease of access to doctors and nurses when needed, the frequency of doctors' and nurses' patient visits, the comfort of the ED (cleaning and technical equipment), and overall satisfaction with the ED care. The patients were asked to answer the questions based on a five-point Likert scale, where 5 = very good, 4 = good, 3 = normal, 2 = poor, and 1 = very bad. During the evaluation, scores of 4 and 5 were considered as satisfied, and scores of 1 and 2 were considered as unsatisfied.

Statistical analysis

The chi-square, ANOVA, and logistic regression tests were used for the evaluation of the effects of the collected data on patient satisfaction. The Statistical Package for Social Sciences (SPSS) for Windows, Version 16.0 software was used for the

statistical analysis

RESULTS

In this study, among the 500 patients who visited the ED, 159 patients (31.8%) were excluded, 38 (23.8%) were not able to communicate, 16 (10.1%) needed urgent care, 21 (13.2%) had deteriorating consciousness, 33 (20.8%) did not consent to the study, and 51 patients (32.1%) had incompletely filled the forms and left the ED without permission. The average age of the 341 patients included in the study was 39.83 ± 19.89 (range from 14 to 83) years. The demographic information and general characteristics of the patients are presented in table 1.

In 256 patients (75.1%), emergency care was initiated within the first 10 minutes. The waiting times of patients in the ED are shown in table 2.

On evaluation of the overall satisfaction with the ED care, 219 patients (64.2%) indicated that they were satisfied whereas 68 patients (19.9%) were not satisfied. The 54 patients (15.4%) who responded that their satisfaction levels were normal were considered to be indecisive. The distribution of the overall satisfaction of the patients with the ED care is shown in table 3.

There was no significant difference in the overall satisfaction rate of the patients in the ED based on age ($p = 0.066$) and gender ($p = 0.480$).

Among the 290 patients who had social insurance, 188 patients (64.8%) were satisfied with the ED services. Thirty-one (60.8%) out of the 51 patients did not have social insurance. No significant

Table 1: Patients' demographic and visit characteristics

Variable	Number (%)
Gender	
Male	169 (49.6)
Female	172 (50.4)
Age group (year)	
14-64	286 (83.9)
≥65	55 (16.1)
Social insurance	
Yes	290 (85.0)
No	51 (15.0)
Method of arrival	
With ambulance	139 (40.8)
Personal transport	129 (37.8)
Other	73 (21.4)
Number of ED visits	
First	272 (79.8)
More than one	69 (20.2)
ED disposition	
Hospitalized	209 (61.3)
Discharged	120 (35.2)
Referred	12 (3.5)

Table 2: The distribution of patient waiting times

Waiting time	Minutes mean ± SD (min-max)
Registration	20.5 ± 6.7 (5-50)
Physician visit	8.7 ± 9.5 (0-70)
Examination	64.8 ± 32.3 (5-300)
Hospitalization	41.5 ± 44.9 (5-300)
Total length of ED stay	195.0 ± 151.5 (20-1200)

Table 3: The distribution of overall patient satisfaction with the ED

level of satisfaction	Number (%)
Very bad	12 (3.5)
Bad	56 (16.4)
Normal	54 (15.8)
Good	117 (34.3)
Very good	102 (29.9)

relationship was found between the overall satisfaction and the presence of social insurance (p = 0.736)

When the patients were asked whether they encountered any difficulties when visiting the ED,

76 patients (22.3%) answered “yes,” and 27 (35.5%) of these patients were satisfied with the ED services; 265 patients (77.7%) answered “no” to the same question, and 191 (72.1%) of these patients were satisfied with the ED services. The satisfaction rates of patients who had encountered difficulties during registration in the ED were found to be lower than that of the patients who did not encounter any difficulties (p = 0.000).

Among the 272 patients who visited the ED for the first time, 174 patients (64%) were satisfied with the ED, and 44 (68.7%) out of the 69 patients who visited the ED more than once were satisfied with the ED. There was no significant relationship between the number of visits and overall satisfaction with the ED care (p = 0.143).

A total of 209 patients were admitted to the hospital, and 146 of them (70%) were satisfied with the ED services. One hundred twenty patients were sent home, and 66 of these patients (55%) were satisfied with the ED services. The overall

Table 4: The relationship between overall patient satisfaction and the factors that affect satisfaction

Variables	Satisfied n (%)	Indecisive n (%)	Not satisfied n (%)	Total n (%)	p
Satisfaction with behavior of nurses	201 (75.0)	29 (10.8)	38 (14.2)	268 (78.6)	0.000
Satisfaction with behavior of physicians	194 (85.9)	17 (7.5)	15 (6.6)	226 (66.3)	0.000
Satisfaction with the information provided by nurses	202 (76.8)	24 (9.1)	37 (14.1)	263 (77.2)	0.000
Satisfaction with the information provided by physician	190 (85.6)	18 (8.1)	14 (6.3)	222 (65.1)	0.000
Ease of access to physician	158 (83.2)	18 (9.4)	14 (7.4)	190 (55.7)	0.000
Ease of access to nurses	185 (80.8)	21 (9.2)	23 (10.0)	229 (67.1)	0.000
Satisfaction with the frequency of physician visits	167 (80.7)	24 (11.6)	16 (7.7)	207 (60.7)	0.000
Satisfaction with the frequency of nurse visits	185 (79.1)	20 (8.5)	29 (12.4)	234 (68.6)	0.000
Satisfaction with comfort of the ED	148 (86.1)	9 (5.2)	15 (8.7)	172 (50.7)	0.000
Satisfaction of hospitalized patients	146 (70.0)	23 (11.0)	40 (19.0)	209 (61.3)	0.009
Satisfaction of patients who did not encounter any difficulties during the registration in to the ED	191 (72.1)	41 (15.4)	33 (12.5)	265 (77.7)	0.000

Table 5: The variables that significantly contribute to overall patient satisfaction and their ratios

Variables	Regression Coefficient	Standard Error	p	Risk Coefficient	95.0% C.I. for EXP(B)	
					Low	Low
No difficulties during the registration	-1.314	0.456	0.004	0.269	0.110	0.657
Behavior of physicians to patients	1.059	0.186	0.000	2.883	2.003	4.151
The ease of access to nurses	1.003	0.227	0.000	2.727	1.747	4.258
Comfort of the ER	0.864	0.195	0.000	2.373	1.620	3.477
Constant	-7.640	1.141	0.000	0.000		

satisfaction rate was higher in the hospitalized patients ($p = 0.009$).

We did not detect any significant difference in the overall satisfaction based on the waiting time for the examination by the doctor, the waiting time to find a suitable bed for the patients who needed hospitalization, and the total length of stay in the ED ($p = 0.252$, $p = 0.407$, and $p = 0.170$, respectively).

The relationship between the overall satisfaction of patients with the ED and factors influencing their satisfaction are shown in table 4.

The logistic regression analysis of the factors affecting overall satisfaction revealed that the doctors' behavior was the most important factor that influenced patient satisfaction. The results of the logistic regression analysis of factors that contributed significantly to the overall satisfaction with the ED are listed in table 5.

DISCUSSION

One of the main purposes of a hospital is to meet the expectations and satisfy the patients who are the recipients of their services. Patient satisfaction is considered to be the most important indicator of the quality of health care and has become a highly emphasized concept in the literature regarding emergency care. Determining the factors that affect the level of satisfaction provides the data source to hospital managers for measurement and improvement of the quality of hospital service. In the current survey, we found that the human relationship skills of ED staff (experience, behavior, communication, ability to provide information) and features of the ED (cleanliness of the ED area, meeting the expectations of patients about technological aspects) have a significant impact on the patient satisfaction and quality of ED services.

In our study, the overall satisfaction rate of patients with the ED service was 64.2%. In the study by Boudreaux et al., the satisfaction rate was 50.0%, whereas, in another study, it was 78.2% (2, 6).

Satisfaction of patients with ED care is particularly related to the quality of the ED staff, including doctors and nurses (13). According to patients, the behavior of employees, their communication skills, clothing, speech, their interest in patients, respect, and other individual characteristics constitute the subunit of the quality of employees (11). Boudreaux et al. reported that patients' satisfaction rate with the medical care provided by the doctors and their politeness was 67.7%, the satisfaction rate regarding the doctors informing the patient's status and treatment was 66.5%, regarding the medical care by the nurses and their politeness was

70.6%, regarding the nurses informing the patient's status and treatment was 67.9%, and the satisfaction rate with the frequency of patient visits by the nurses was 58.8% (2).

When we compared the patients' satisfaction levels with the ED physicians and nurses in our study with those from the study conducted by Boudreaux et al., we found that, in our study, the satisfaction rate with physicians was lower whereas that with nurses was higher. The higher satisfaction rate with the nurses could be because nurses, being the primary care providers, have a close relationship with the patients and their families, answer their questions and provide information, and deal with the patient's care and follow-ups. Moreover, patients' interactions with physicians are limited due to an insufficient number of physicians coupled with a high patient volume in the ED. Also, physicians providing care to other patients and performing other tasks in different places can decrease the interaction time with the patients.

Various studies have shown that there is a significant relationship between the levels of overall patient satisfaction and the behavior of the physicians (11, 14, 15). In our study, we determined that the behavior and attitude of physicians (showing interest and courtesy) is the most important factor that contributes significantly to the overall patient satisfaction.

Similar to the available literature, we found that the behavior of nurses is an important factor that influences the overall patient satisfaction (11, 16). When the patients were asked whether they encountered any difficulties during the registration in the ED, 76 patients (22.3%) answered "yes." On investigating the causes of these difficulties, it was found that the waiting for registration and rudeness of the employees were the most common causes. Experiencing difficulties during the registration in the ED reduces patient satisfaction. The information received from ED employees is another factor that affects patient satisfaction (7-9, 11, 17). Therefore, physicians and nurses should provide information regarding the condition of the patients receiving treatment in the ED, and this procedure should be a part of care in the ED.

According to a study, environmental factors such as cleanliness of the exam rooms and waiting areas do not have a significant impact on patient satisfaction (18). A different study, where the cleanliness, food, and parking facilities were reviewed by patients, showed that these factors do not reflect on the quality of care (19). Unlike the other studies, this study found that comfort (technical equipment, the overall appearance, and cleanliness) in the ED

significantly contributed to the overall patient satisfaction. This finding shows that having high standards for technical equipment results in patients feeling safe and calm in the hospitals and increases their satisfaction.

Different studies have reported the patient's average waiting times for medical examination by a physician to be 13 to 80 minutes (12, 17, 20, 21). In our study, the average waiting time for examination by a physician was 8.7 ± 9.5 minutes. The reason for this might be that, in our study, the patient triage was performed by physicians, whereas in the studies mentioned above, patient triage may have been performed by nurses.

In our study, the total duration of the patients' ED stay was 195.0 ± 151.5 minutes, which is similar to that reported in other studies (10, 12, 17, 21).

One of the studies reported that there was no significant relationship between the total duration of stay in the ED and overall patient satisfaction (8). However, another study showed that the overall satisfaction and waiting time were significantly correlated (10). In our study, we did not find a significant effect of waiting time for the physician or the total duration of the stay in the ED on the overall patient satisfaction. The reason for this might be the fact that in our hospital, intern physicians have an active role in the operation of the ED. Every patient is taken care of by a physician, even if the doctor who is in charge of the ED service is too busy. Intern physicians take the patient's clinical history, which may give an impression to the patient that the patient care has started.

Physicians and other ED staff should visit patients at certain time intervals, detect any changes in their situation, provide comfort to patients, and answer all of the patients' questions. Therefore, we think that the ease of access to physicians and nurses at any time and the frequency of patient visits by the physicians and nurses have an impact on the overall patient satisfaction. Unfortunately, no study has been conducted on this subject. In our study, in particular, the ease of access to nurses has been shown to significantly contribute to overall patient satisfaction.

Similar to other studies, baseline demographic characteristics such as age and gender did not have a significant effect on overall patient satisfaction in our study. Some studies have indicated that older patients tend to be more satisfied (10, 11, 18).

Some studies have found a very weak correlation between the presence of social insurance and the overall satisfaction, whereas our study found that the presence of social insurance does not contribute to the patient's satisfaction (11, 18).

Patients who were hospitalized following the ED visit were found to be more satisfied than the patients who were given prescriptions and sent home. This is because patients want to determine the causes of their complaints and to resolve their complaints with treatment when they visit the ED. While in the ED, patients are diagnosed, and their primary treatment is started. If the patients need hospitalization, they are hospitalized in a related department or an observational unit of the ED. Therefore, all of the patients' expectations are met, thus increasing their satisfaction.

Limitations

We did not assess other important factors that have been shown to affect patient satisfaction such as perceived wait times, technical skills of personnel, and methods of providing information to the patients or their relatives. Also, satisfaction is a subjective perception. Patients with different presentations might have different satisfaction rates, and the severity of cases may influence the satisfaction rates; for example, people who are in a great deal of pain are likely to be dissatisfied.

CONCLUSIONS

Emergency departments respond to the needs of the patients. Human relationship skills of ED staff such as experience, behavior, communication, and ability to provide information have a positive effect on patient satisfaction and quality of ED services. Therefore, educating the ED staff is essential to improve patient satisfaction. The cleanliness of the ED area and meeting the expectations of patients about the technological aspects also have a significant impact on patient satisfaction. The most important role in this regard is that of the hospital administration. Therefore, modern ED services with sufficient employees, an adequate number of beds, having all the suitable standards for today's technology which can deliver a quick diagnosis and treatment should be provided.

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AUTHORS' CONTRIBUTION

Study design: OK and YG; Data collection: OK and HY; Data analysis: OK and HY; Study supervision: OK and YG; Manuscript writing: OK and BG; Critical revisions for important intellectual content: OK and BG.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of

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