



## The effect of patient qualifications and number of patient accompanist on patient's satisfaction



Tanzer Korkmaz <sup>a,\*</sup>, Burcin Balaban <sup>b</sup>, Husnu Onder <sup>c</sup>, Fusun Saricil <sup>b</sup>

<sup>a</sup> Department of Emergency Medicine, Izmir University, Izmir, Turkey

<sup>b</sup> Department of Emergency Medicine, Bolu Izzet Baysal Education and Research Hospital, Bolu, Turkey

<sup>c</sup> Department of Emergency Medicine, Hitit University Corum Education and Research Hospital, Corum, Turkey

### ARTICLE INFO

#### Article history:

Received 19 February 2016

Accepted 29 February 2016

Available online 28 March 2016

#### Keywords:

Patient qualifications  
Number of accompanist  
Patient satisfaction

### ABSTRACT

**Objectives:** Patient satisfaction surveys are important information sources for the evaluation of the quality and continuity of medical care. In this study, it is aimed to investigate the impact of patient's qualifications and the number of patient accompanists on the patient satisfaction and to find out whether there is a relationship between the number of patient accompanist and discharge status of patient.

**Methods:** All patients over 18 years old who have applied to emergency department within one month, along with the relevant patient information were recorded. The patients and patient accompanists were asked questions by an unrelated staff after the patient was discharged.

**Results:** The average of patients ( $n = 264$ ) satisfied with emergency department is  $100 \pm 0.9$  (%95CI 88.4–92.3). It was observed that the patient satisfaction is directly proportional to the age and inversely proportional to the educational level ( $r = 0.241$ ,  $p = 0.0001$ ,  $r = -0.236$   $p = 0.0001$ ; respectively). It was found out that the patients who were male, hospitalized and had  $\geq 2$  accompanists were statically more satisfied ( $p = 0.002$ ), however; there was no relationship between the patient satisfaction and the complaints and the presence of an accompanist ( $p = 0.408$ ).

**Conclusions:** It was determined that the satisfaction levels of the patients and their accompanist were high. Parameters such as male gender, age over 65 and living with the family increase patient satisfaction. Satisfaction of the patient accompanists increases if the patient is female and hospitalized. High education level decreases the level of patient satisfaction.

Copyright © 2016 The Emergency Medicine Association of Turkey. Production and hosting by Elsevier B.V. on behalf of the Owner. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

### 1. Introduction

Patient satisfaction is defined as “the basic measure which provides information about what level the values and expectancies of the patients are met and which shows the quality and improvement of the care in which the principal authority is the patient”.<sup>1,2</sup> Patient satisfaction is a complex concept which shows variability related to numerous factors and it is a significant indicator of quality of patient care. Also, it is a multi-dimensional concept involving the presentation of department, the communication and interaction of patients and caregivers and the

qualification of health care providers; measurement of satisfaction enables feedback for evaluating the health care departments and improving its quality. However, since the theories explaining patient satisfaction are not adequate, it is based on the perception of the provided departments and fulfillment of the expectations, in general.<sup>3</sup> The departure of the patient from the hospital in a satisfied manner is effective on choosing the same hospital for health issues again and proposing that hospital to people around. Therefore, emergency departments (ED) are very important for improving the quality of patient care.

Parameters affecting ED satisfaction can be listed as health care characteristics such as physician-nurse, communication with patient and patient accompanists, characteristics of the infrastructure of the hospital and waiting period at triage area. The age of the patient, degree of urgency at the time of admission, patient's educational status and knowledge on medical issues may all

\* Corresponding author. +90 5054742710 (mobile).

E-mail address: [Tanzerkorkmaz@gmail.com](mailto:Tanzerkorkmaz@gmail.com) (T. Korkmaz).

Peer review under responsibility of The Emergency Medicine Association of Turkey.

influence expectancies of patients on patient care.<sup>2,4–7</sup> Another important factor that affects patient satisfaction is the difference in the perception of care between health workers and patients.<sup>8,9</sup>

Social customs and traditions can also affect expectations. In difficult situations to deal with, such as the disease or death of a beloved one, being in company is one of our cultural traditions. We consider that more than one relative accompanying the patient during admission may stem from both the concerns regarding the patient and the assumption that this presence may increase the quality of patient care. Variations in the number of the relatives (decreasing/increasing) during patients' stay in the ED is a situation that we encounter in our clinical practice from time to time.

In this study, we aimed to investigate the effects of demographic characteristics and the number of patient accompanists on patient satisfaction and whether there is a relationship between status of the patients and the number of accompanists who have stayed together with the patients from their ED admission times to their discharge times.

## 2. Material and methods

### 2.1. Study design

This was a prospective survey study in a convenience sample of ED. The study was authorized by the local University's Human Research Ethics Committee, and patients gave informed verbal consent.

### 2.2. Study setting and population

The setting was a university hospital with an adult emergency department. Consecutive eligible patients were enrolled during a 1-month period. Non-traumatic patients who were aged 18 years or over and who were admitted within working hours that the emergency medicine specialist was also present were included in the study. Patients who were unconscious or mentally retarded, non-cooperative or non-oriented, regardless of whether they were influenced by drugs or alcohol, and accompanists of the patients who refused to be involved in the study were excluded.

### 2.3. Study protocol

The study consisted of two parts. In the first part, data related to the patients were verbally asked to the patients and their accompanists and noted on the form-sheets by nurses who met the patients initially. In this part, the demographic characteristics of the patients [age, gender, complaints, educational status (school-graduation or currently attending)], the place of residence (alone, with friend, family, dormitory, etc.) and the number of patient accompanists during admission were recorded. The complaints of the patients were grouped as pain in any region of the body, upper respiratory tract infection (URTI) (sore throat, runny nose, fatigue, cough i.e.), and other internal causes (nausea-vomiting, syncope, inability to walk, allergy, high blood pressure, vertigo, diarrhea, crying-nervous breakdown etc.).

In the second part, the final status of the patient following termination of diagnostic and therapeutic procedures in the emergency department (discharge, admission to the ward or intensive care unit), duration of stay in the emergency department and the number of patient accompanists accompanying the patient following the discharge from the emergency department were recorded. The satisfaction of the patients and their accompanists were asked to the patients and to their accompanists and were recorded by a staff member (nurse, intern doctor, or a resident) who did not have a direct relationship with the patient care. The

satisfactions of patient accompanists were obtained by asking the satisfaction value to all people who were with the patient during discharge and by calculating the average value. Following discharge, Numerical Rating Scale was used for evaluation of overall satisfaction during the period that the patient was in the emergency department. Scores were based on a scale of 1–100, with 100 being the top score. 100–90: excellent, 80–89: good, 70–79: average, 69 and below: poor. The overall results were grouped as “satisfied” for excellent-good and “unsatisfied” for average-poor. The issues that they were not satisfied were recorded as open-ended answers.

### 2.4. Data analysis

The SPSS 17.0 for Windows (SPSS Inc., Chicago, IL) software was used for the statistical analyses. Regarding the data obtained by measuring, for the data conforming to the normal distribution, arithmetic mean and standard deviation, and for the data not conforming to the normal distribution, median and 95% CIs were shown; for categorical data obtained by counting, the number (n) and percentage (%) were shown. To evaluate the differences between the groups in terms of frequencies of categorical data, chi-square test was used. For analysis of satisfaction and educational level of the patients and their co-habitants, Kruskal–Wallis Test was used. For analysis of satisfaction of patient accompanists with discharge results and gender with satisfaction Independent Samples Test and Mann–Whitney U Test were used. In analysis of parameters related to the patient satisfaction, correlation analysis was used. *p*-value of less than 0.05 was considered to be significant.

## 3. Results

A total of 264 patients who were admitted to the emergency department within a 1-month period, who agreed to participate and who met the inclusion criteria were included in the study. The median age of the patients in the study was  $30.5 \pm 1.2$  years (range 18–85 years), and the patient group aged 30 years and under constituted the highest number (Fig. 1). 40 (15.2%) patients were over 65 years of age. When satisfaction was evaluated, the patient satisfaction (median:  $100 \pm 0.9\%$ 95CI 88.4–92.3) was higher than the satisfaction of patient accompanists (median:  $90.0 \pm 2.5\%$ 95CI 65.9–76.0). The distributions of the satisfaction in patients and patient accompanists were shown in Fig. 2. A moderate significant positive difference was found between the satisfactions of the patients and patient accompanists ( $r = 0.371$   $p < 0.001$ ). There was moderate significant positive correlation between the patient age and the satisfaction of patient accompanists ( $r = 0.241$   $p < 0.001$ ,

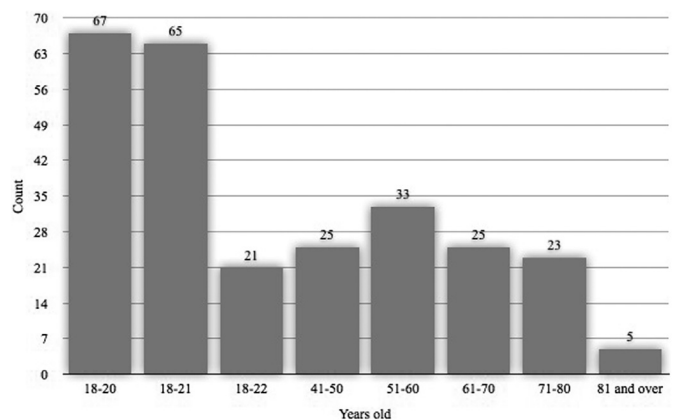


Fig. 1. The age distribution of patients admitted to the emergency service.

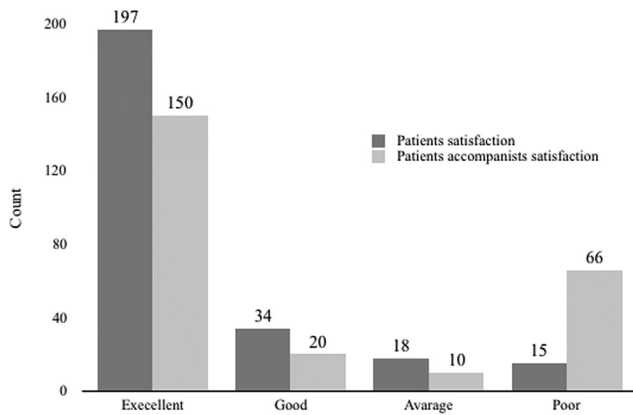


Fig. 2. The distribution of satisfactions of patients and their accompanists.

$r = 0.263$   $p < 0.001$ , respectively). While patient age being 65 years and over (38 versus 2 patients) or under (193 versus 31 patients) did not significantly affect the patient satisfaction, it was associated with significant difference in satisfaction of patient accompanists ( $p = 0.090$ ,  $p < 0.001$ , respectively). The accompanists of patients under the age of 65 (132 versus 74 persons) showed less satisfaction when compared to the patients' own satisfaction (193 versus 31 patients). The satisfaction of the male patients was significantly higher than the female patients whereas the accompanists of the female patients showed higher satisfaction than that of the male patients; however, this was not statistically significant (Table 1). The median values for patient satisfactions of uneducated patients ( $n = 22$ , 8.3%), elementary school graduates ( $n = 84$ , 31.8%), upper secondary school graduates ( $n = 35$ , 13.3%) and university graduates ( $n = 123$ , %46.6) were calculated as  $100.0 \pm 1.7$ ,  $92.5 \pm 4.4$ ,  $100 \pm 3.3$  and  $90.0 \pm 1.5$ , respectively. There is moderate negative correlation between the educational level of the patients and the satisfaction of both the patients and their accompanists ( $r = -0.236$   $p < 0.001$ ,  $r = -0.200$   $p < 0.01$ , respectively). As the educational level of the patient goes higher, the satisfaction decreases.

In the statistical analysis made after exclusion of three patients who were living alone, people who lived together were significantly more satisfied, regarding both the patients and their accompanists (Table 1). This difference was found between patients living with their family and living in dormitories in terms of both the patients and their accompanists. The patients living in dormitories were found to be less satisfied than patients living with family.

The median duration of stay for patients in the emergency department was determined as  $102.5 \pm 12.0$  min (95% CI

145.1–192.6) (mean  $168.9 \pm 195.9$ , range 10–1380 min). The majority of patients stayed 0–2 h (56.1%,  $n = 148$ ) in the emergency department.

No significant differences were found in terms of complaints during admission for the satisfaction of both patients and their accompanists (Table 1).

No difference was found between discharge types from the emergency department and patient satisfaction, whereas the difference was statistically significant in terms of their accompanists. The accompanists of the patients admitted to the hospital were more satisfied compared to those who received outpatient treatment (Table 1).

It was determined that the patients who had more than one accompanist during both admission and discharge were more frequently hospitalized and this was statistically significant (one companion during admission  $n = 10$ , 34.5%, more than one companion  $n = 19$ , 65.5%, one companion during discharge  $n = 9$ , 30.0%, more than one companion  $n = 21$ , 70.0%) ( $p = 0.002$ ,  $p < 0.001$ , respectively).

In emergency department admission, it was determined that 116 patients (43.9%) had one, 54 (20.5%) had two, 14 (5.3%) had three, 8 (3.0%) had more than three and 72 (27.3%) had no companion. During discharge, it was determined that 112 patients (42.4%) had one, 58 (22.0%) had two, 11 (4.2%) had three, 10 (3.8%) had more than three and 73 (27.7%) had no companion. Four patients who did not have companions during admission to the emergency department but had companion during their discharge (3 satisfied patients, one unsatisfied patient who was admitted with crying symptom whose accompanist was also unsatisfied) and five patients who had companion during their admission but did not have companion during discharge were identified. It was not possible to statistically show the effects of presence or absence of companion on patient satisfaction (Table 2). While a moderate positive correlation was determined between the increase in number of patient accompanists during discharge of the patient from the emergency department and the satisfaction of patient accompanists, no correlation was found with patient satisfaction ( $p < 0.001$   $r = 0.513$ ,  $p = 0.337$   $r = 0.059$ , respectively).

Only 51 (18.6%) patients expressed their reasons for unsatisfaction. Their most frequent complaint leading to unsatisfaction was "the long waiting times during the diagnostic and therapeutic processes [unwilling to give a very high score ( $n = 12$ , 4.5%), Unconcern/disregard ( $n = 62.3\%$ ), parenteral treatment ( $n = 31.1\%$ ), delay in intervention ( $n = 31.1\%$ ), drugs not administered ( $n = 20.8\%$ ), not being given a sick-leave document ( $n = 20.8\%$ ), lack of toilet hygiene ( $n = 10.4\%$ ), non-relief of the complaints ( $n = 10.4\%$ ), not allowing companions to enter the intervention area frequently and in a populous way ( $n = 10.4\%$ )].

Table 1

The relationship between satisfactions of patients and their accompanists and educational status, gender, medical outcome, initial complaints and place of residence.

		n	Patient satisfaction	p	Satisfaction of patient accompanists	p
Gender	Women	167	$88.5 \pm 16.7$	0.027	$71.8 \pm 38.6$	0.876
	Men	97	$93.6 \pm 12.1$		$69 \pm 42.4$	
Medical outcome	Discharge	224	$90.4 \pm 14.7$	0.400	$68.4 \pm 41.2$	0.025
	Admitted to a ward	32	$92.3 \pm 16.5$		$86.4 \pm 28.0$	
	Other <sup>a</sup>	8	$81.4 \pm 25.4$		$75.7 \pm 37.7$	
Initial complaints	Pain	128	$91.6 \pm 12.6$	0.394	$72.8 \pm 38.9$	0.787
	Like URTI <sup>b</sup>	85	$92.3 \pm 9.8$		$72.0 \pm 40.2$	
	Other internal	51	$87.2 \pm 20.8$		$67.4 \pm 41.7$	
Place of residence	Family	161	$93.6 \pm 13.3$	0.0001	$79.4 \pm 36.0$	0.0001
	Friends	31	$86.1 \pm 19.6$		$69.5 \pm 38.9$	
	Dormitory	69	$84.4 \pm 15.8$		$54.4 \pm 42.5$	

<sup>a</sup> Refuse treatment/unauthorized leave, to consult in another emergency department.

<sup>b</sup> Sore throat, runny nose, fatigue.

**Table 2**

The distribution of satisfactions of patients and their accompanists according to the presence or absence of patient accompanists during admission to the emergency service and during discharge.

	Patients accompanists							
	During admission				During discharge			
	Present		Absent		Present		Absent	
	n	%	n	%	n	%	n	%
Patient satisfaction								
*Satisfied	169	88.0	62	86.1	167	88.4	64	85.3
**Not satisfied	23	12.0	10	13.9	22	11.6	11	14.7
P	0.408				0.315			
Satisfaction of patient accompanists								
*Satisfied	166	87.4	–	–	167	88.4	–	–
**Not satisfied	24	12.6	–	–	22	11.6	–	–

\*Satisfied: excellent and good.

\*\*Unsatisfied: average and poor.

#### 4. Discussion

Patient satisfaction is a complex concept which shows variability related to numerous factors and it is a significant indicator of quality of patient care. Patients and patient accompanists' satisfaction were found to be high in our study as it was in the study conducted by Akkaya et al.<sup>5</sup> In conducted studies on patient satisfaction, inconsistent results have been observed among socio-demographic data of patients. In addition to studies by authors such as Yildirim et al, showing that age and gender have no effect on patient satisfaction, there are some studies such as the one by Dolek et al, suggesting that age and gender are effective on patient satisfaction.<sup>10–12</sup>

Patients being young and being admitted to the emergency department for non-urgent causes are considered among reasons that reduce the satisfaction.<sup>4,13</sup> As the age of our patients increases, the satisfaction of both the patients and their accompanists increase moderately. The young patients constituted the majority of the patients in our study (median 30.5 years). The reason why the patient population consists mainly of young patients may be the location of our hospital being far from the city center and within the university campus.

It was expressed that as the level of education increases the level of satisfaction decreases according to first level health care service delivery satisfaction data from the Ministry of Health and the study of Dolek et al.<sup>2,11</sup> We consider that the negative correlation found in our study between educational level and patient satisfaction, which was consistent with the literature, might have originated from the contradiction between high knowledge level/expectations and the provided health service.

Timely treatment is more important for the patients satisfaction.<sup>5,12</sup> In our hospital, due to the small number of admissions, there is no actual waiting time for diagnosis and treatment or it is very little. Also, the diagnosis and treatment processes are usually ended within the range of 2 h. It was found that Turkey ranked 4th (69.1%) in international gradation in the satisfaction of waiting periods of patients (Switzerland (79%), Iceland (70), Germany (70%).<sup>2</sup>

The emergency departments are front gates of the hospitals. Generally, the majority of patient admissions are realized through emergency departments. Patient satisfaction is usually shaped by reports of patients and their accompanists. In addition to this, patient accompanists are potential future customers. Bad impressions gained in the emergency departments may lead to significant loss of customers in the future.<sup>14</sup> In our study, it was determined that patients who have more than one companion at the time of admission and discharge are more frequently hospitalized. Yigit et al found that

hospitalized patients were more satisfied than those who were discharged during the evaluation of the satisfaction forms.<sup>12</sup> The presence of accompanying accompanists may be related to the seriousness of the diseases in terms of hospitalized patients. However, since no related data was collected in our study, this issue was not fully identified. No study involving the patient accompanists as well was met in the literature, as far as authors could determine. We consider that the need for the presence of more than one accompanist accompanying the patient during admission arises from both their concerns about the patient and from the sense that this situation may affect the quality of the patient care.

Complaints are among useful instruments for assessing the quality and may reveal the correctable and avoidable faults and shortcomings of the currently present health system. The principal causes of the complaints are stated as medical care, attitude of the personnel and waiting period.<sup>4,12</sup> In a conducted study, environmental factors such as proximity of food and beverages, presence of magazines and privacy were also found to be important factors in patient satisfaction. In our study, we only asked the reasons of dissatisfaction and determined that the most frequent reason for dissatisfaction was the long duration of investigative and treatment processes (6.8%). In the study by Aytar et al in which they investigated patient satisfaction, the most disturbing issue was found as physical and technical conditions [39.3%].<sup>15</sup> In our study, there was only one patient complaining about the environmental factors (the lack of toilet hygiene).

The presence of accompanists is a traditional symbol of mutual support in our society. Despite our expectation that the patients would feel more secure and less lonely, and therefore be more satisfied with increased number of accompanists, no positive effect was determined. This data could not be compared due to lack of studies involving the patients' accompanists among the available literature.

#### 5. Limitations

There were some limitations of our study. The first of these limitations was that our patient profile did not represent the overall population, involving a younger population. Our second limitation was the inability to evaluate the impact of emergency status of the patients on their satisfaction, since emergency status, triage, admission and discharge diagnoses were not identified. Our third limitation was the lack of pediatric patients in our study, since medical care service was not provided to pediatric patients other than those admitted with trauma. Our fourth limitation was the single center design of this study. These results may be different in another hospital or city. Our fifth limitation was the working hour's limitation for the patient enrollment. The patients were enrolled within the working hours of the emergency medicine specialist. All patients who admitted to the emergency department were not included the study.

#### 6. Conclusions

It was determined that the satisfaction levels of the patients who applied to our emergency department and accepted to participate in the study were high. Parameters such as male gender, age over 65 and living with the family increase patient satisfaction. Satisfaction of the patient accompanists increases if the patient is female and hospitalized. High education level decreases the level of patient satisfaction. Patients having more than one companion are more frequently hospitalized. The presence of companion has no effect on patient satisfaction. In order to increase patient and patient accompanists' satisfaction and maintain this satisfaction at high level, it can be suggested that in-hospital measures should be

taken and necessary structuring including education should be provided by analyzing the expectations at social level.

### Acknowledgments

The authors thank Aysu Koyan MD.

### References

1. Heidegger T, Saal D, Nuebling M. Patient satisfaction with anaesthesia care: what is patient satisfaction, how should it be measured, and what is the evidence for assuring high patient satisfaction? *Best Pract Res Clin Anaesthesiol.* 2006;20:331–346.
2. Mollahaliloglu S, Kosdak M, Sanisoglu Y, et al. T.C. Saglik Bakanligi, Patient Satisfaction with Primary Health Care Services. Opus Basın Yayın ve Ambalaj Sanayi ve Ticaret Ltd. Sti. 2010. sayfa 1–2.
3. Meryem Y. Saglik bakım kalitesinin bir olcutu: Hasta memnuniyeti. *Cumhuriyet Universitesi Hemsire Yuksekokulu Derg.* 2001;5:69–74.
4. Zengin S, Al B, Yavuz E, et al. Patient and relative complaints in a hospital emergency department: a 4-Year analysis. *Tr J Emerg Med.* 2012;12:163–168.
5. Akkaya EG, Bulut M, Akkaya C. The factors affecting the level of patients' satisfaction of the applicants for emergency service. *Tr J Emerg Med.* 2012;12: 62–68.
6. Jha AK, Orav EJ, Zheng J, et al. Patients' perception of hospital care in the United States. *N Engl J Med.* 2008;359:1921–1931.
7. Karaca MA, Erbil B, Ozmen M. Waiting in the emergency room: patient and attendant satisfaction and perception. *Eur J Surg Sci.* 2011;2:1.
8. Muntlin A, Gunningberg L, Carlsson M. Patients' perceptions of quality of care at an emergency department and identification of areas for quality improvement. *J Clin Nurs.* 2006;15:1045–1056.
9. Von Essen L, Sjoden PO. The importance of nurse caring behaviors as perceived by Swedish hospital patients and nursing staff. *Int J Nurs Stud.* 2003;40: 487–497.
10. Yildirim C, Kocoglu H, Goksu S, et al. Patient satisfaction in a university hospital emergency department in Turkey. *Acta Medica.* 2005;48:59–62.
11. Dolek M, Turaba F, Akbınar C, et al. Ege Universitesi Tip Fakultesi Hastanesi acil servis biriminde yatan hastaların memnuniyet düzeyinin incelenmesi. *Turk Acil Tip Derg.* 2005;5:122–127.
12. Yigit O, Oktay C, Bacakoglu G. Analysis of the patient satisfaction forms about emergency department services at Akdeniz university hospital. *Turk J Emerg Med.* 2010;10:181–186.
13. Hansagi H, Carlsson B, Brismar B. The urgency of care need and patient satisfaction at a hospital emergency department. *Health Care Manag Rev.* 1992;17: 71–75. abstract.
14. Worthington K. Customer satisfaction in the emergency department. *Emerg Med Clin North Am.* 2004;22:87–102.
15. Aytar G, Yeldal N. Yatan Hasta memnuniyeti. *Duzce Tip Fakultesi Derg.* 2004;3: 10–14.