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Original Article

Determination of Inpatient Satisfaction in Terms of Sociodemographic Characteristics

Hasta Memnuniyetinin Bazı Sosyo-Demografik Özellikler Açısından Belirlenmesi

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ABSTRACT

Objective: In this study, we aimed to examine the satisfaction levels of patients hospitalized in a university hospital in terms of sociodemographic characteristics.

Methods: This was a descriptive study. The population of the study consisted of 9,629 inpatients at a university hospital between May 31, 2017, and May 31, 2018. An introductory information form and inpatient satisfaction scale were used in the study. The study sample consisted of 7,153 patients (both under and upper the age of 18 years) patients/patients' parent who agreed to participate in the study. To determine the service quality, research forms were included in the satisfaction measurement survey that were given to each patient by the hospital administration staff before being discharged.

Results: The scale and sub-dimensions of the scale evaluated were significantly higher for older patients, male patients, patients with a hospital stay of 24 days or more, and patients in internal diseases services. Scores obtained from satisfaction with doctors sub-dimension did not differ on the basis of the level of education. Scores of patients who graduated from a university were significantly higher than other groups in the satisfaction with nurses sub-dimension.

Conclusion: The scores of patients obtained on the inpatient satisfaction scale and its sub-dimensions differed by age, sex, education, length of hospital stay, and clinic type. Sociodemographic characteristics of patients affect their satisfaction, and the significance of the effect of those factors on patient satisfaction varied. It is recommended to consider demographic characteristics to increase patient satisfaction.

Keywords: Care management, patient satisfaction, quality

ÖZ

Amaç: Bu çalışma, bir üniversite hastanesinde yatan hastaların memnuniyet düzeylerinin sosyo-demografik özellikler açısından incelenmesi amacı ile yapıldı.

Gereç ve Yöntem: Tanımlayıcı bir araştırmadır. 31 Mayıs 2017-31 Mayıs 2018 tarihleri arasında bir üniversite hastanesinde yatarak tedavi gören 9629 hasta araştırmanın evrenini oluşturmuştur. Çalışmada tanıtıcı "Bilgi Formu" ve "Yatarak Hasta Memnuniyeti Ölçeği" kullanılmıştır. Çalışmanın örneklemini 7153 hasta (18 yaş altı ve üstü) ve çalışmaya katılmayı kabul eden hastalar/hasta velisi oluşturdu. Hizmet kalitesini belirlemek için hastaneden taburcu edilmeden önce her hastaya hastane yönetim kadrosu tarafından uygulanan memnuniyet ölçüm anketine araştırma formları dahil edilmiştir.

Bulgular: Değerlendirilen ölçeğin ölçek ve alt boyutları, yaşlı hastalar, erkek hastalar, hastanede yatış süresi 24 gün ve üzeri olan hastalar ve iç hastalıkları servisindeki hastalar için anlamlı olarak daha yüksekti. "Hekim Memnuniyeti" alt boyutlarından elde edilen puanlar eğitim düzeyine göre farklılık göstermemektedir. "Hemşire Memnuniyeti" alt boyutunda üniversiteden mezun olan hastaların puanları diğer gruplara göre anlamlı olarak yüksek bulunmuştur.

Sonuç: Hastaların "Yatan Hasta Memnuniyeti Ölçeği" ve alt boyutlarından elde edilen puanları yaş, cinsiyet, eğitim, hastanede kalış süresi ve klinik türüne göre farklılık göstermektedir. Hastaların sosyodemografik özellikleri memnuniyetlerini etkiler ve bu faktörlerin hasta memnuniyeti üzerindeki etkilerinin önemi değişkenlik gösterir. Hasta memnuniyetini arttırmak için demografik özellikler dikkate alınması önerilmektedir.

Anahtar Kelimeler: Bakım Yönetimi; hasta memnuniyet, kalite

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Introduction

Patient satisfaction is an important indicator of and an important criterion for quality health care delivery.[1, 2] Patient satisfaction is the balance of experiences and expectations of a patient during the treatment process.[1] There are different variables affecting satisfaction during this period,[3] and hence, it should be handled as a multi-dimensional concept.[4]

There is no single definition of satisfaction. Satisfaction, being a subjective perception, is deemed to be the most important indicator of quality healthcare. Services provided by hospitals should be safe and focused on quality of care because healthcare is not negligible.[1, 3, 5]

Factors affecting patient satisfaction are important for organizational and clinical processes aimed at increasing patient satisfaction.[6] Multiple studies have been conducted to determine patient satisfaction indicators.[3, 7, 8] Patient satisfaction can be affected by many factors, including service providers, organization, and environmental factors,[1, 9] as well as the quality of objects, processes, infrastructure, interaction, and atmosphere.[10] A study indicated that patient satisfaction is affected by communication components, relational behaviors, technical competence, accessibility, and personal qualifications.[11] Another study indicated that patient satisfaction is influenced by reasonable prices and affordability, meeting clinical needs, nursing care, general attitudes of doctors, registration and administrative procedures, infrastructure and facilities, and professional behaviors.[12]

Patient satisfaction should be one of the main targets of modern health systems and should be evaluated consistently.[13] Service quality should be measured to provide quality health services, and this could be provided through satisfaction evaluation researches. Ensuring patient satisfaction is important for increasing numbers of patient, monitoring patients, increasing personnel productivity, decreasing malpractice, and obtaining higher efficiency and profit.

The factors contributing to patient satisfaction in hospitals are routine visits of doctors and nurses, behavior of service personnel, and promptness of service. However, few other factors responsible for patient dissatisfaction are lack of trained, efficient, and experienced nurses; high treatment cost; and unnecessary medical tests and investigations. Cost and quality of services, nursing and staff care, service proximity, and improved patient care are very important for patient satisfaction.[12]

In this study, we aimed to determine the effects of sociodemographic characteristics of patients at a university hospital on their satisfaction level of the services provided to further contribute to quality studies. The question raised in this study was, "Do the sociodemographic characteristics of inpatients affect their satisfaction with the service provided?"

Material and Methods

The data were collected at two university hospitals in Istanbul, which are among the largest university hospitals in Turkey. Istanbul is the most crowded city in Turkey and in Europe and has the power to represent Turkey owing to its cosmopolitan population. The hospitals where the data were collected, being institutions of education and research, with high inpatient bed availability, and a major medical reputation in Turkey, are places where a high sample number can be reached in a relatively short time.

This is a descriptive study. The population of the study consisted of 9,629 inpatients at a university hospital between May 31, 2017, and May 31, 2018. The study sample consisted of 7,153 patients both under and upper the age of 18 years with the participation. Patients under the age of 18 years with the participation of their parents and adult patients who agreed to participate in the study and completed the questionnaire. The patients were not diagnosed with any psychiatric problems, did not have a speech impediment or hearing deficiency, and spoke Turkish fluently.

Data collection

Data were collected using an introductory information form and an inpatient satisfaction scale (ISS). Following literature review, the introductory information form was developed and included questions related to age, sex, education level, clinical service, and length of hospital stay.

The ISS was developed by the researchers and consisted of five dimensions and 48 questions. An article pool was prepared for the design of the ISS following a thorough analysis of the literature by the research team. The draft for the scale was designed after administrative nurses, attending nurses, and doctors were consulted about the article pool. A sample of 1,210 patients among the total patient population who were treated in these two hospitals from December 01 to December 31, 2016, were randomly selected for the reliability and validity study of the scale. Scale articles were analyzed statistically according to reliability and validity. The reliability and validity study was concluded with a Cronbach's alpha value of 0.98, and our study's Cronbach's alpha value was 0.87. It was decided that the scale was valid and reliable.

The dimensions of the scale were satisfaction with doctors, satisfaction with nurses, satisfaction with other services, satisfaction with cleaning services, and satisfaction with other personnel. The scale was a 5-point Likert type scale (1= very dissatisfied to 5 = very satisfied), which measured the satisfaction level from health services, allied health personnel services, and physical conditions of the institution. The scale was evaluated by a separate score of the sub-dimensions of the scale and score of the answers. The higher the scores obtained, the higher was the satisfaction level of the patients. The highest obtainable score was 240 and the lowest was 48.

Research forms were included in the satisfaction measurement survey that were given to each patient by the hospital administration staff before being discharged to determine the service quality. The data forms used in the study were given to the patients through the service nurses. The aim of the study was explained to the service nurses by the researchers, how the forms should be filled, and how the questions should be answered. Questionnaires were then distributed to patients. The

patients and their relatives returned the questionnaires to the ward nurse. A researcher collected questionnaires at the end of each day. Consequently, all the patients in all the wards of the hospitals were informed by the ward nurses and they completed the forms. A high sample number was reached in a short time. The forms were evaluated by the researchers.

Statistical analysis

The number cruncher statistical system (NCSS) 2007 (Kaysville, Utah, USA) program was used for statistical analyses. The Mann-Whitney U test was used to compare two groups of the variables, which did not show normal distribution of quantitative data as well as descriptive statistics methods (mean, standard deviation, median, frequency, rate, minimum, and maximum) in data analysis. The Mann-Whitney U test was used to determine the group causing differentiation, whereas the Kruskal-Wallis test was used to compare more than two groups, which did not show normal distribution. The significance level was analyzed as $P < .05$.

Ethical Approval

The study and all interview materials were reviewed and approved by the clinical studies ethics committee of İstanbul University, İstanbul Faculty of Medicine (no. 2017/318) and conducted in accordance with the Declaration of Helsinki. In addition, written permission of the hospital management was obtained.

Results

The study was conducted at two university hospitals in Istanbul, Turkey, involving 65.4% (n=4,677) female and 34.6% (n=2,476) male patients; a total of 7,153 patients were included in the study. Of the patients, 36.9% were 45 years or older, and almost half had a primary level education (Table 1).

Patients in the plastic surgery services were 17.2% (n=1,229), and the length of the hospital stay of more than half (53.3%) ranged from one to five days (Table 1).

There was a statistically significant difference between patient scores obtained on the ISS and its sub-dimensions based on the evaluation by age ($P = .001$; $P < .01$) (Table 2). Based on the results from the Mann-Whitney U test to determine the differences, the scores of patients who were 15 years or younger and those who were 51 years or older obtained from the ISS and its sub-dimensions were significantly higher than other age groups; namely, children and middle aged and older patients stated they were satisfied with the institution and the services provided by the personnel.

Male patients' scores obtained from the ISS and its sub-dimensions were higher when evaluated by sex. There was a statistically significant difference between sexes ($P = .001$; $P < .01$) (Table 3). Male patients were more satisfied with the institution and the personnel.

There was no statistically significant difference between the scores of the patients on the satisfaction with doctors and satisfaction with cleaning services sub-dimensions and the scores of overall scales by education status ($P > .05$). As an interesting finding, the scores of the patients having a university degree were significantly higher than the scores of the patients having primary school and high school education levels ($P = .001$, $P = .003$, $P < .01$) (Table 4). However, the scores of the patients who were literate on the satisfaction with other services sub-dimension and satisfaction with other personnel sub-dimension were significantly higher than patients with high school and university levels of education ($P < .05$) (Table 4). However, the patients with a lower education level were satisfied with the allied health personnel, physical conditions of the hospital, and delivery of food services, whereas patients with a higher education level were satisfied with the nursing care.

The scores of the patients hospitalized between one and five days were low on the ISS and its sub-dimensions when satisfaction levels were evaluated by the length of hospital stay ($P < .01$ and $P < .05$) (Table 5). However, satisfaction levels of patients hospitalized 24 days and over were significantly higher ($P <. 01$ and $P < .05$) (Table 5). This indicated that satisfaction level decreased as hospital stay became shorter (less than six days) and increased when hospital stay was 24 days and over.

Table 6 shows total scores and sub-scale scores of the ISS of internal unit inpatients were higher than those of patients hospitalized in surgery units, and there was a statistically significant higher difference between them ($P = .001$, $P < .01$).

Discussion

Age is one of the sociodemographic characteristics affecting patient satisfaction.[3, 8, 14, 15] Nearly half of the patients were 45 years or older, the scores of the patients 51 years and older obtained from the ISS and its sub-dimensions were significantly higher than other age groups. The relationship between age

Table 1. Distribution on Patient Characteristics

		n (%)
Age (years)	< 15	292 (4.1)
	15–20	338 (4.7)
	21–26	1,237 (17.3)
	27–32	924 (12.9)
	33–38	1,066 (14.9)
	39–44	658 (9.2)
	45–50	621 (8.7)
	≥ 51	2,017 (28.2)
Sex	Female	4,677 (65.4)
	Male	2,476 (34.6)
Education	Literate	833 (11.6)
	Primary education	3,122 (43.6)
	High school	1,890 (26.4)
	University	1,308 (18.3)
Name of clinic	Surgical wards	4,955 (69.3)
	Medical wards	2,198 (30.7)
Length of hospital stay (days)	1–5	3,816 (53.3)
	6–11	2,082 (29.1)
	12–17	521 (7.3)
	18–23	242 (3.4)
	≥ 24	492 (6.9)

Table 2. Evaluation of Inpatient Satisfaction Total and Sub-Dimension Scores by Age Groups

Age groups (years)		Satisfaction with nurses	Satisfaction with doctors	Satisfaction with other services	Satisfaction with cleaning services	Satisfaction with other personnel	Total satisfaction
< 15	Min-Max (Median)	1.92–5 (4.75)	2.24–5 (4.41)	1–5 (4.11)	1–5 (4)	1–5 (4.4)	2.08–5 (4.33)
	Mean±SD	4.51±0.57	4.39±0.57	4.25±0.69	4.10±0.91	4.31±0.75	4.36±0.56
15–20	Min-Max (Median)	1–5 (4.25)	1–5 (4.06)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4.06)
	Mean±SD	4.35±0.62	4.25±0.60	4.10±0.73	4.06±0.83	4.15±0.75	4.21±0.59
21–26	Min-Max (Median)	1–5 (4.17)	1–5 (4.06)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4.02)
	Mean±SD	4.34±0.65	4.24±0.65	4.00±0.82	3.92±0.94	4.07±0.83	4.17±0.64
27–32	Min-Max (Median)	1–5 (4.04)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4)
	Mean±SD	4.32±0.63	4.22±0.61	4.04±0.73	4.00±0.85	4.13±0.72	4.18±0.58
33–38	Min-Max (Median)	1–5 (4.33)	1–5 (4.06)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4.06)
	Mean±SD	4.37±0.64	4.26±0.62	4.08±0.74	3.97±0.92	4.15±0.76	4.21±0.61
39–44	Min-Max (Median)	1–5 (4.25)	1–5 (4.12)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4.13)
	Mean±SD	4.39±0.58	4.28±0.56	4.13±0.71	4.05±0.84	4.22±0.71	4.25±0.55
45–50	Min-Max (Median)	1–5 (4.25)	1.53–5 (4.06)	1–5 (4)	1–5 (4)	1–5 (4)	1.21–5 (4.04)
	Mean±SD	4.38±0.57	4.25±0.56	4.07±0.70	4.01±0.86	4.18±0.69	4.22±0.54
≥ 51	Min-Max (Median)	1–5 (4.67)	1–5 (4.29)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4.27)
	Mean±SD	4.46±0.58	4.35±0.56	4.18±0.70	4.14±0.81	4.29±0.67	4.32±0.55
Test Value		$\chi^2 = 64.509$	$\chi^2 = 55.210$	$\chi^2 = 64.491$	$\chi^2 = 60.454$	$\chi^2 = 83.613$	$\chi^2 = 81.239$
[a]*P*		.001**	.001**	.001**	.001**	.001**	.001**

[a]Kruskal Wallis Test
**$P < .01$

Table 3. Evaluation of Inpatient Satisfaction Total and Sub-Dimension Scores by Sex

		Sex		Test Value
		Female (n=4677)	Male (n=2476)	[a]*P*
Satisfaction with nurses	Min-Max (median)	1–5 (4.33)	1–5 (4.5)	Z = −3.701
	Mean±SD	4.37±0.62	4.42±0.6	.001**
Satisfaction with doctors	Min-Max (median)	1–5 (4.12)	1–5 (4.18)	Z = −3.412
	Mean±SD	4.26±0.61	4.32±0.58	.001**
Satisfaction with other services	Min-Max (median)	1–5 (4)	1–5 (4)	Z = −5.633
	Mean±SD	4.06±0.75	4.17±0.71	.001**
Satisfaction with cleaning services	Min-Max (median)	1–5 (4)	1–5 (4)	Z = −6.917
	Mean±SD	3.98±0.89	4.13±0.82	.001**
Satisfaction with other personnel	Min-Max (median)	1–5 (4)	1–5 (4)	Z = −5.247
	Mean±SD	4.16±0.75	4.25±0.72	.001**
Total satisfaction	Min-Max (median)	1–5 (4.06)	1–5 (4.19)	Z = −5.576
	Mean±SD	4.21±0.59	4.29±0.58	.001**

[a]Mann-Whitney U Test, **$P < .01$, SD, standard deviation

and satisfaction is complex because there is a relationship between age and perception.[16] Some findings in the literature indicate that age and patient satisfaction are interrelated, and satisfaction level increases as age increases.[3, 5, 7, 14, 16-21] Patients have lower expectations with increasing age because they wish to do daily exercises, which demand low physical activities, do not expect to recover fully, and consent to the decrease in symptoms preventing them from doing daily exercises.[17, 22] However, satisfaction level of patients under 15 years was higher than the patients in 19–50 years age group. Our findings and literature illustrate that age affects satisfaction; however, age should be evaluated on its own and together with the other related factors (medical treatment results, length of hospital stay, expectation, understanding the treatment, etc.) because individual differences affect satisfaction level.[3] For example, Von Keudell et al.[17] have found that satisfaction level of young people undergoing ankle arthroplasty surgery in terms of decreased pain, increased joint mobility, etc., was low, and satisfaction was higher in middle aged and older patients.

Even though there are studies in literature emphasizing the relationship between age and satisfaction, different findings were reported.[1, 7, 12] There are findings indicating that satisfaction level of male patients was higher than female patients.[1, 7, 21, 23, 24] In this study, male patients were found to be more satisfied with the institution and its personnel. Sex is an important factor, and male and female participants stated satisfaction or dissatisfaction from different points of view.[7, 20] Literature shows that satisfaction level in male patients in terms of nursing care, comfort, reception services, accessibility of the clinic, visit, and

Table 4. Evaluation of Inpatient Satisfaction Total and Sub-Dimension Scores by Education Level

		Education level				Test value
		Literate (n=833)	Primary school (n=3122)	High school (n=1890)	University (n=1308)	[a]*P*
Satisfaction with nurses	Min-Max (Median)	1–5 (4.42)	1–5 (4.25)	1–5 (4.38)	1–5 (4.63)	χ^2 = 15.039
	Mean±SD	4.41±0.59	4.37±0.61	4.38±0.63	4.45±0.59	.002**
Satisfaction with doctors	Min-Max (Median)	1–5 (4.12)	1–5 (4.06)	1–5 (4.12)	1–5 (4.24)	χ^2 = 4.375
	Mean±SD	4.3±0.57	4.28±0.6	4.27±0.61	4.31±0.59	.224
Satisfaction with other services	Min-Max (Median)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4)	χ^2 = 11.168
	Mean±SD	4.14±0.75	4.10±0.74	4.08±0.76	4.09±0.69	.011*
Satisfaction with cleaning services	Min-Max (Median)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4)	χ^2 = 5.009
	Mean±SD	4.08±0.86	4.02±0.86	4±0.91	4.06±0.82	.171
Satisfaction with other personnel	Min-Max (Median)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4)	χ^2 = 26.978
	Mean±SD	4.23±0.73	4.16±0.74	4.17±0.76	4.27±0.69	.001**
Total satisfaction	Min-Max (Median)	1–5 (4.15)	1–5 (4.06)	1–5 (4.1)	1.08–5 (4.23)	χ^2 = 7.176
	Mean±SD	4.27±0.57	4.23±0.59	4.22±0.61	4.27±0.55	.066

[a]Kruskal-Wallis Test, **P* < .05, ***P* < .01

Table 5. Evaluation of Inpatient Satisfaction Total and Sub-Dimension Scores by Length of Hospital Stay

Length of hospital stay (days)		Satisfaction with nurses	Satisfaction with doctors	Satisfaction with other services	Satisfaction with cleaning services	Satisfaction with other personnel	Total satisfaction
1-5	Min-Max (Median)	1–5 (4.08)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4.02)
	Mean±SD	4.35±0.59	4.24±0.58	4.08±0.69	4.03±0.81	4.18±0.69	4.21±0.56
6-11	Min-Max (Median)	1–5 (4.5)	1–5 (4.24)	1–5 (4)	1–5 (4)	1–5 (4)	1–5 (4.21)
	Mean±SD	4.41±0.64	4.31±0.62	4.07±0.81	3.99±0.95	4.16±0.81	4.24±0.62
12-17	Min-Max (Median)	1.25–5 (4.67)	2–5 (4.35)	1–5 (4)	1–5 (4)	1–5 (4)	1,83–5 (4.29)
	Mean±SD	4.44±0.61	4.34±0.62	4.16±0.74	4.08±0.89	4.24±0.75	4.29±0.60
18-23	Min-Max (Median)	1–5 (4.63)	1–5 (4.38)	1–5 (4)	1–5 (4)	1–5 (4.2)	1.21–5 (4.34)
	Mean±SD	4.44±0.65	4.34±0.66	4.17±0.76	4.08±0.92	4.26±0.79	4.30±0.63
≥ 24	Min-Max (Median)	1–5 (4.75)	1–5 (4.5)	1.44–5 (4.06)	1–5 (4)	1–5 (4.4)	1.38–5 (4.36)
	Mean±SD	4.49±0.58	4.42±0.58	4.24±0.71	4.14±0.86	4.34±0.68	4.37±0.57
Test value		χ^2 = 57.377	χ^2 = 79.411	χ^2 = 28.355	χ^2 = 16.803	χ^2 = 36.812	χ^2 = 52.496
[a]*P*		.001**	.001**	.001**	.002**	.001**	.001**

[a]Kruskal-Wallis Test, ***P* < .01

Table 6. Evaluation of Inpatient Satisfaction Total and Sub-Dimension Scores by Units

		Unit	Test Value	
		Surgery units (n=4955)	Internal units (n=2198)	[a]*P*
Satisfaction with nurses	Min-Max (Median)	1–5 (4.17)	1–5 (4.67)	Z = −8.151
	Mean±SD	4.36±0.61	4.47±0.61	.001**
Satisfaction with doctors	Min-Max (Median)	1–5 (4.06)	1–5 (4.35)	Z = −8.171
	Mean±SD	4.25±0.59	4.36±0.60	.001**
Satisfaction with other Services	Min-Max (Median)	1–5 (4)	1–5 (4)	Z = −5.645
	Mean±SD	4.07±0.73	4.17±0.75	.001**
Satisfaction with cleaning services	Min-Max (Median)	1–5 (4)	1–5 (4)	Z = −3.751
	Mean±SD	4.02±0.85	4.07±0.91	.001**
Satisfaction with other personnel	Min-Max (Median)	1–5 (4)	1–5 (4,2)	Z = −8.030
	Mean±SD	4.15±0.74	4.28±0.74	.001**
Total satisfaction	Min-Max (Median)	1–5 (4,04)	1–5 (4,29)	Z = −7.649
	Mean±SD	4.21±0.58	4.31±0.59	.001**

[a]Mann-Whitney U Test, ***P* < .01

cleanliness were higher than female patients.[7, 23] However, other studies indicated that female patients also stated their satisfaction at higher levels regarding similar issues.[12, 23, 25] Such an inconsistency between findings indicated that factors such as culture and age should be considered together in studies where sex is investigated as a variable. Without any prejudice, conducting more analyses will be beneficial to determine whether gradation of high satisfaction level depends on individuals.[26]

The results show there is a relationship between education level and satisfaction; and as education level increased, satisfaction level increased.[20, 23] This study found a significant relationship between education level and satisfaction, that is, satisfaction level increases as education level increases, which is similar to other studies.[20] Patients having a lower education level were satisfied with the allied health personnel, physical conditions of the hospital, and delivery of food services, whereas patients with a higher education level were satisfied with the medical care. Emhan and Bez,[27] indicated that satisfaction levels of participants who were literate or primary school graduates with the information given by the doctor, counseling services, general cleaning, and polyclinic service quality were higher than high school or university graduates. The difference in the areas where satisfaction was expressed shows that factors such as perception, expectations, desire to communicate, and expectation for receiving information were associated with education levels.[4, 5, 21] Jalil et al.[15] determined in a study conducted in Pakistan that almost all poor and uneducated participants were unsuccessful in understanding the exposure to unnecessary risks, confidentiality, and respecting rights, and expressed their satisfaction at higher level from services they received for free. Consequently, education is an important factor affecting satisfaction and should be evaluated from different related perspectives. Furthermore, the scores of the patients with a university degree on the satisfaction with nurses sub-dimension were found to be significantly higher, as well as the scores of literate and primary school graduates on the satisfaction with other services sub-dimension. This finding complies with other research findings indicating that patient satisfaction is higher in clinics where nurses have high autonomy, and nursing care is carried out regularly.[7, 28-30] According to investigation results of nursing care perception in Turkey, the scores of patients who were hospitalized for a longer period, had a hospital stay of three times or more, and hospitalized in a clinic where patient/nurse ratio was low were higher.[31] Personal characteristics of healthcare providers; kindness, compassion, interest, and understanding, professional attitudes, and the way they exhibited knowledge and skills played an important role in patient satisfaction.[1] It is believed that factors such as nurses spending more time with patients, continuity of care giving, nurses' workload, and satisfactory and explanatory information influence patient satisfaction.

This study indicated that the scores on satisfaction levels of patients hospitalized for 24 days and over was significantly higher. These findings indicated that satisfaction level decreased as hospital stay became shorter (less than six days) and increased when hospital stay was 24 days and more. Some studies indicate that satisfaction level of patients hospitalized for longer periods[20, 32-34] was more than those hospitalized for shorter periods.[7] Another study indicated that hospital stays for patients between the ages of 75–84 were longer than patients between the ages of 65–69, and their satisfaction level was also more positive.[20] Fallon et al.[35] have found that patients' low pain score during their hospital stay was an important factor affecting satisfaction. These findings showed that even though the length of hospital stay is an important factor affecting satisfaction, it is not a fundamental determinant on its own. The seriousness of disease and prognosis, recovery time in hospital, pain management, and gaining mobility together with the length of hospital stay affect satisfaction levels.[7, 17, 35-38]

The type of the clinic significantly impacts patient satisfaction.[5] Patient satisfaction is deemed to depend on effective pain control and nausea and vomiting, especially postoperatively.[39] Satisfaction levels of patients hospitalized in internal units were significantly higher than those hospitalized in surgery units. This finding correlated with higher satisfaction levels of patients who were hospitalized longer. Medical care and continuity of care are indicators of satisfaction and quality.[30] According to the literature, patients with chronic diseases were more satisfied with nursing care in general.[30] Berglund et al.[28] have found higher satisfaction levels of patients hospitalized in oncology clinics owing to continuity of care. Furthermore, satisfaction level of patients from the information they were provided was found to be high. Patient satisfaction with nursing care is based on the perception that nurses could meet patient needs. Predicting and meeting patients' basic needs at the proper time brings a positive viewpoint toward nursing care. This increases patient satisfaction throughout the hospital stay.[40] These findings indicated that care and the information that patients need increased as their stay in the clinic increased. Meeting the needs and expectations of patients during the period of stay in the clinic increased satisfaction level. This idea is supported by findings that as the hospital stay and education level increased, the total satisfaction level increased; and as education level increased, satisfaction levels from nursing care increased accordingly.

Study limitations

The study findings consisted of views of the patients receiving services from a single hospital. The satisfaction level of the patients not participating in the study are unknown. Thus, the study cannot be generalized. Another limitation was that the study was not sufficient in discovering the causal relationships.

Suggestions

This study should be repeated in different institutions and populations to generalize the results. Different tools can be used to determine the cause and effect relationships. The following factors should be investigated: empathy, confidence, the relationship between patients' expectations and results, health literacy, psychological problems, previous experiences, quality of life, cost-benefit relation obtained from the treatment, wait time and length of appointments, influence level of treatment on the quality of life, perception, and cultural structure and experience. Subsequently, a comparative analysis should be carried out.

Conclusion

Sociodemographic characteristics of patients are factors affecting their satisfaction levels. Yet, the power and direction of that effect varies. Healthcare services provided to patients is an integrated service by multi-professional occupation groups carrying out their functions. Sociodemographic factors should be considered to ensure satisfaction in all service areas. Thus, sociodemographic characteristics are important indicators of and play a key role in quality healthcare delivery. More studies should be conducted to understand how cultural, behavioral, and socio-economic differences affect patient satisfaction. This provides a broad research area for further studies.

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References

1. Yılmaz M. Patient satisfaction: A Criteria of Health Care Quality. *Journal of Cumhuriyet University School Nursing*. 2001;5(2):69-74.
2. Deshpande SP. The Impact of Race on Patient Satisfaction With Primary Care Physicians. *Health Care Manag*. 2017;36(1):29-38. [Crossref]
3. Menendez ME, Chen NC, Mudgal CS, Jupiter JB, Ring D. Physician empathy as a driver of hand surgery patient satisfaction. *J Hand Surg*. 2015;40(9):1860-1865. [Crossref]
4. Graham B. Defining and measuring patient satisfaction. *J Hand Surg*. 2016;41(9):929-931. [Crossref]
5. Russell RS, Johnson DM, White SW. Patient perceptions of quality: analyzing patient satisfaction surveys. *Int J Operations Prod Manag*. 2015;35(8):1158-1181. [Crossref]
6. Waters S, Edmondston SJ, Yates PJ, Gucciardi DF. Identification of factors influencing patient satisfaction with orthopaedic outpatient clinic consultation: a qualitative study. *Man Ther*. 2016;25:48-55. [Crossref]
7. Batbaatar E, Dorjdagva J, Luvsannyam A, Savino MM, Amenta P. Determinants of patient satisfaction: a systematic review. *Perspect Public Health*. 2017;137(2):89-101. [Crossref]
8. Morris A, Bloom JR, Kang S. Organizational and individual factors affecting consumer outcomes of care in mental health services. *Adm Policy Ment Health*. 2007;34(3):243-253. [Crossref]
9. Fleming S. Meta-analysis: complex relationships between patient satisfaction, age and item-level response rate. *J Res Nurs*. 2016;21(8):621-622. [Crossref]
10. Sharma V. Patient satisfaction and brand loyalty in healthcare organizations in India. *J Asia Bus Stud*. 2017;11(1):73-87. [Crossref]
11. Boquiren VM, Hack TF, Beaver K, Williamson S. What do measures of patient satisfaction with the doctor tell us? *Patient Educ Couns*. 2015;98(12):1465-1473. [Crossref]
12. Kamra V, Singh H, Kumar De K. Factors affecting patient satisfaction: an exploratory study for quality management in the healthcare sector. *Total Quality Manag Bus Excel*. 2016;27(9-10):1013-1027. [Crossref]
13. Beşciu CD. Patient Satisfaction in the Hospital's Emergency Units in Bucharest. *Procedia Econ Fin*. 2015;32:870-877. [Crossref]
14. Plewnia A, Bengel J, Körner M. Patient-centeredness and its impact on patient satisfaction and treatment outcomes in medical rehabilitation. *Patient Educ Couns*. 2016;99(12):2063-2070. [Crossref]
15. Jalil A, Zakar R, Zakar MZ, Fischer F. Patient satisfaction with doctor-patient interactions: a mixed methods study among diabetes mellitus patients in Pakistan. *BMC Health Serv Res*. 2017;17(1):155-168. [Crossref]
16. Kvist T, Voutilainen A, Mäntynen R, Vehviläinen-Julkunen K. The relationship between patients' perceptions of care quality and three factors: nursing staff job satisfaction, organizational characteristics and patient age. *BMC Health Serv Res*. 2014;14(1):466-476. [Crossref]
17. Von Keudell A, Sodha S, Collins J, Minas T, Fitz W, Gomoll AH. Patient satisfaction after primary total and unicompartmental knee arthroplasty: an age-dependent analysis. *Knee*. 2014;21(1):180-184. [Crossref]
18. Schoenfelder T, Klewer J, Kugler J. Determinants of patient satisfaction: a study among 39 hospitals in an in-patient setting in Germany. *Int J Qual Health Care*. 2011;23(5):503-509. [Crossref]

19. Özer A, Çakıl E. Factors affecting patient satisfaction in health services. *Türkiye Araştırmaları Dergisi*. 2007;5(3):140-143.
20. Chumbler NR, Otani K, Desai SP, Herrmann PA, Kurz RS. Hospitalized Older Adults' Patient Satisfaction: Inpatient Care Experiences. *Sage Open*. 2016;6(2):1-7. [Crossref]
21. Erdem R, Rahman S, Levent A, et al. The effect of patient satisfaction on patient commitment. *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*. 2008;31:95-110.
22. Mahomed NN, Liang MH, Cook EF, et al. The importance of patient expectations in predicting functional outcomes after total joint arthroplasty. *J Rheumatol*. 2002;29(6):1273-1279.
23. Alotaibi M, Alazemi T, Alazemi F, Bakir Y. Patient satisfaction with primary health-care services in K uwait. *Int J Nurs Prac*. 2015;21(3):249-257. [Crossref]
24. Malik N, Alvaro C, Kuluski K, Wilkinson AJ. Measuring patient satisfaction in complex continuing care/rehabilitation care. *Int J Health Care Qual Assur*. 2016;29(3):324-336. [Crossref]
25. Bu-Alayyan S, Mostafa A, Al-Etaibi B, Sorkhou E, Al-Taher H, Al-Weqayyan A. Patient satisfaction with primary health care services in Kuwait. *Kuwait Med J*. 2008;40(1):25-30.
26. Foran A, Millar E, Dorstyn D. Patient satisfaction with a hospital-based neuropsychology service. *Aust Health Rev*. 2016;40(4):447-452. [Crossref]
27. Emhan A, Bez Y. The satisfaction levels of the patients admitted to a university hospital. *Dicle Med J*. 2010;37(3):241-247.
28. Berglund CB, Gustafsson E, Johansson H, Bergenmar M. Nurse-led outpatient clinics in oncology care-Patient satisfaction, information and continuity of care. *Eur J Oncol Nurs*. 2015;19(6):724-730. [Crossref]
29. Negarandeh R, Bahabadi AH, Mamaghani JA. Impact of regular nursing rounds on patient satisfaction with nursing care. *Asian Nurs Res*. 2014;8(4):282-285. [Crossref]
30. Desborough J, Bagheri N, Banfield M, Mills J, Phillips C, Korda R. The impact of general practice nursing care on patient satisfaction and enablement in Australia: A mixed methods study. *Int J Nurs Stud*. 2016;64:108-119. [Crossref]
31. Kol E, Geçkil E, Arıkan C, et al. Examination of nursing care perception in Turkey. *Acıbadem Üniversitesi Sağlık Bilimleri Dergisi*. 2017;3:163-172.
32. Sahin B, Yilmaz F, Lee KH. Factors affecting inpatient satisfaction: structural equation modeling. *J Med Syst*. 2007;31(1):9-16. [Crossref]
33. Borghans I, Kleefstra SM, Kool RB, Westert GP. Is the length of stay in hospital correlated with patient satisfaction? *Int J Qual Health Care*. 2012;24(5):443-451. [Crossref]
34. Tsai TC, Orav EJ, Jha AK. Patient satisfaction and quality of surgical care in US hospitals. *Ann Surg*. 2015;261(1):2-8. [Crossref]
35. Fallon E, Fung S, Rubal-Peace G, Patanwala AE. Predictors of patient satisfaction with pain management in the emergency department. *Adv Emerg Nurs J*. 2016;38(2):115-122. [Crossref]
36. Tokunaga J, Imanaka Y. Influence of length of stay on patient satisfaction with hospital care in Japan. *Int J Qual Health Care*. 2002;14(6):493-502. [Crossref]
37. Goh GSH, Liow MHL, Razak HRBA, Tay DKJ, Lo NN, Yeo SJ. Patient-reported outcomes, quality of life, and satisfaction rates in young patients aged 50 years or younger after total knee arthroplasty. *J Arthroplasty*. 2017;32(2):419-425. [Crossref]
38. Golas M, Park CG, Wilkie DJ. Patient satisfaction with pain level in patients with cancer. *Pain Manag Nurs*. 2016;17(3):218-225. [Crossref]
39. Alshehri AA, Alomar YM, Mohammed GA, et al. A survey on postanesthetic patient satisfaction in a university hospital. *Saudi J Anaesth*. 2015;9(3):303-305. [Crossref]
40. Meade CM, Bursell AL, Ketelsen L. Effects of nursing rounds: on patients' call light use, satisfaction, and safety. *Am J Nurs*. 2006;106(9):58-70. [Crossref]