

How Patient Loyalty Affects Patient Satisfaction

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This study is a cross-sectional field study conducted to examine the effect of patient satisfaction on patient commitment based on the health institution which patients have recently visited. Two different scales were used in the study. The universe of the study consisted of patients who applied to hospitals in January 2019 and received inpatient health services to public hospitals, private hospitals, and university hospitals serving in the city of Konya. The questionnaires were applied by the researchers to the patients who were discharged from the hospital based on voluntariness by selecting the convenience sampling method. The data analysis was conducted with a 95% confidence level and 5% tolerance in the SPSS 22.00 program. Non-parametric test techniques were used for the analysis. In accordance with the results of the correlation analysis, it was statistically found positive, low, and medium strength relations between general satisfaction and its sub-dimensions ($p < 0.01$). According to the results of simple and multiple regression analysis, patient satisfaction affects patient commitment ($B = 0.918$; $p < 0.01$). The majority of patient commitment (54.1%) is explained by patient satisfaction. In patient commitment, medical satisfaction makes a change by 29.2%; interest and kindness a change by 32.2% and administrative satisfaction a change by 33.9%. Patient satisfaction makes a change by 91.8% in patient commitment. Other variables are needed to explain the change of 8.2%.

Keywords: Hospitals, Patient commitment, Patient satisfaction.

Introduction

Healthcare services are all medical activities carried out for the elimination of various factors damaging human health and protection of the society from the influence of these factors, treatment of patients, rehabilitation of those with reduced physical and spiritual abilities and angels (Resmi Gazete 1961: Law article 2). The main purpose of healthcare services is to produce various health services that appropriately meet the needs of patients (Öztürk 2014). Healthcare services structurally involve different characteristics from other service sectors. Health services differ from other service sectors because of a direct relationship with people's lives (Tüfekçi and Asıgbulmuş 2016).

Patient satisfaction is one of the most important outputs of healthcare services. It is among the issues that are strongly emphasized within the service production process and quality studies. Based on the researches on patient satisfaction, factors such as the medical qualification level of health institution (quality of physicians, nurses, and such), and its physical structure, the cleaning of institution, the behaviors of the health personnel (communication, courtesy, and such), and the waiting period of patients, affect the satisfaction level of patients (Kılıç and Topuz 2016).

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The patient loyalty has gained importance for health institutions in parallel with some developments such as improving quality, improving patient satisfaction, and customer orientation in the health sector. Patient commitment can be defined as the preference of the same hospital when needed, characterizing the hospital's services positive and the hospital as a heartfelt hospital (Erdem et al. 2008).

Literature Review

Patient Satisfaction

Satisfaction is an evaluation and emotional response to the organization/business in which a customer serves (Oliver 1997). Patient satisfaction is highly significant in terms of general structure, functioning, and outputs of health services. The patients who are satisfied with the health services provided by the hospitals meticulously adhere to their advice because they trust the physicians and other employees in the hospital. In case the patient is satisfied with the hospital and if s/he needs healthcare again, he will re-choose this hospital (Özer and Çakıl 2007).

Hospitals, like all businesses that maintain the purpose of customer satisfaction, also should focus on quality service and patient satisfaction in healthcare delivery. The patient who is satisfied with and re-prefers the same hospital, because of the satisfaction, he/she is expected to tell his/her surroundings (relatives, friends, etc.), and because of the probability of more people choosing the hospital will increase (Büber and Başer 2012).

Physical characteristics of hospitals that play a significant role in patient satisfaction involve specifications such as cleaning, heat, air-conditioning, lighting, noise, easy location, waiting rooms, parking, and appearance (Kavuncubaşı and Yıldırım 2012). When patients evaluate the health services, many of them assess by taking into consideration the attitudes and behaviors they encounter while providing the services, rather than the technical aspect of the services (Teke et al. 2007). It is known that some problems such as hospital infections and readmissions are necessary for the quality and safety programs of the hospitals. Hospital administration should take some precautions to reduce such negativities, because they can influence the satisfaction and commitment of the patients to the hospital (Hebert 2015). Factors affecting patient satisfaction are:

- The patient-related factors.
- The service provider-related factors.
- Organization-related factors (Özer and Çakıl 2007).

Patient-directed Factors

Socio-demographic conditions of patients affect satisfaction in the delivery of healthcare services. However, it is seen that this situation is not consistent in all studies (Yılmaz 2001).

The Service Provider-related Factors

In every step of the service delivery, the health employees in direct contact with the patients have a tremendous impact on patients' views and satisfaction about the services of the hospital (Korkmaz 2003). The kindness, compassion, interest, and understanding shown by the health employees and the way they present their knowledge and skills make the patient more relaxed and more harmonious and participatory in the treatment (Özer and Çakıl 2007). In the event of a positive relationship between the patient and the practitioner, the patients fully comply with the recommendations of the physicians and do not interrupt the treatment offered (Kısa 2007).

When people get sick, they tend to feel more vulnerable and under less control than ever before. For that reason, respect and empathy are crucial for establishing a healthy relationship with patients. Active listening and demonstrating that the patients' concerns recognized is a fundamental component of promoting information sharing and effective patient-physician communication (Teutsch 2003).

Organization-related Factors

Recently, because of the developments in the health sector, some concepts such as respect, trust, rights, and privacy during service delivery in health institutions have begun to emerge more prominently (Özata and Özer 2017). In all healthcare service processes, the requirement to ensure the privacy of the patient is specifying Hospital Standards and evaluation criteria in the Health Quality Standards. According to these standards, patient consent should be obtained in case of participation in research and experimental studies or the use of data, information, and materials belonging to the patient for any reason. In this view, patient confidentiality should be taken care of (Uysal and Yorulmaz 2018).

Being informed and guided by the institution is of great importance. For patients:

- Possible causes and the course of the disease.
- By whom, where and how to perform the medical intervention and the estimated time.
- Other diagnostic and therapeutic options and the benefits and risks of these options and the possible effects of them on the patients' health.

Prospective complications:

- Potential benefits and risks that may arise in case of rejection.
- Important properties of the drugs to be used.
- Lifestyle recommendations that are critical to health.
- When it is necessary, information is given on how to reach medical aid in the same subject (Resmi Gazete 1987: Law article 15).

The physical conditions are an important resource in terms of providing clues that a client looks for before buying the service (Esatoğlu 1997). Boshoff and Gray (2004) found that features in the external appearance such as cleanliness, elegance, the decor, and rooms of the hospital, employees' clothing and appearance play an essential role in patient satisfaction. On the other hand, another factor affecting satisfaction in the delivery of healthcare services is the disruptions and difficulties in bureaucratic procedures. The time losses in the bureaucracy and the waiting in the service process can affect patient satisfaction, negatively. During patient admission and discharge procedures in hospitals, some problems can arise due to prolonged waiting of patients and their relatives. Hence, the fact that hospitals keep these conditions at a good level can affect patient satisfaction positively. The time loss that may happen during patient admission and discharge procedures may cause complaints of patients and relatives (Öz 2004).

During the provision of health services, the expectations of the patients/clients are rather important. Public or private health institutions, providing outpatient or inpatient treatment services, perform activities related to components of service by evaluating health services and patient expectations (Öztürk 2014).

Patient Commitment

The concept of patient commitment is related to hospital services and is considered in terms of general management and managers (Erdem et al. 2008). Commitment is defined as the intention and request of the participant to maintain the relationship (MacMillan et al. 2005). As a result of high-quality service provided by the hospitals, patients will always increase their commitment to the hospital that presents an appropriate treatment. Therefore, service quality and patient satisfaction are the prerequisites for loyalty (Kandampully and Hu 2007).

A patient satisfied with the health services becomes a loyal customer of the hospital and prefers the same hospital unless there is a negative situation (Gülmez 2005). The commitment to the hospital of patients who trust the hospital increases. In this context, it can be said that satisfaction is a significant factor in influencing hospital preference (Tüfekçi and Asıgbulmuş 2016).

The advancement of the service quality provided in healthcare institutions positively affects the satisfaction of the patients and relates to the re-preferring and the recommendation of the health institution (Ramez 2012). The patients satisfied with the healthcare services of the hospital recommend the hospital to other people, because they trust the physicians and other employees in the hospital (Özer and Çakıl 2007).

The patient left the hospital dissatisfied is not expected to prefer the same institution in later times (Gülmez 2005). The patient accurately uninformed about the treatment may experience negative emotions such as fear, worry. As a consequence, the process of the treatment may be affected negatively. This situation can consistently affect both patient satisfaction and hospital choice in a negative way (Tüfekçi and Asıgbulmuş 2016).

The principle of respect for patient autonomy in healthcare services is accepted as a fundamental principle. Following the patient given an opportunity of own autonomous choice and action listening to the patient carefully, answering questions, and informing about the disease properly should be paid attention (Aslan et al. 2008).

The commitment model developed by Allen and Meyer (1990) involves emotional, continuance, and normative commitment.

An individuals' participation in the organization and the mental connection with the organization is expressed as emotional commitment. The emotional commitment is that patients are attached to hospitals with a sense of gratitude for treating themselves (Derin and Demirel 2011).

Since leavings' cost the organization is high, the continuation of the organization membership is expressed as continuance commitment. With continuance commitment, the individual cannot leave the organization, even if s/he wants, for leaving the organization will be costly and will have difficulties (Ceylan et al. 2005).

Normative commitment is expressed as a perceived obligation to remain in the organization (Allen and Meyer 1996). Patients, who want to regain healthy situations according to the examination and treatment processes within the hospital they prefer, want to take the hospital service as obligatory, during the treatment.

Materials and Methods

This study is a cross-sectional field study conducted to examine the effect of patient satisfaction on patient commitment based on the health institution where visited recently.

In this study were used two scales. The first is the scale of patient satisfaction and the second is the scale of patient commitment. Both scales were improved by Erdem et al. (2008). Cronbach's alpha was found high as 0.90 for patient satisfaction and 0.92 for patient commitment. The scale of patient satisfaction consisted of 15 expressions and three dimensions. The scale of patient commitment consisted of 11 expressions and one dimension.

The hospitals were divided into three as public hospitals, private hospitals, and university hospitals. According to the socio-demographic data of the patients, comparisons were made both on the general scale and its' sub-dimensions. The study's' universe consisted of patients admitting to hospitals in January 2019 and receiving inpatient healthcare services in public hospitals, private hospitals, and university hospitals that provide services in the city of Konya. The questionnaires were applied to the patients discharging from the hospital by selecting the

convenience sampling method, according to volunteering. SPSS (Statistical Package for the Social Sciences) 22.0 package program was used to analyze the data. The loss data and extreme values were checked in the SPSS. The normality test was performed to determine the test technique to be used in comparative analysis. For not normally distributed was used Mann-Whitney U test for the comparison between paired groups and Kruskal-Wallis H test for comparison of more than two groups. The Bonferroni correction (with the Mann-Whitney U test) applied to find the source of the difference between groups. The Spearman Correlation Test applied to determine the relationship between the scales and the sub-dimensions. Simple linear regression analysis was conducted to determine the effect of patient satisfaction on patient commitment. On the other hand, multiple regression analysis was done by using the Enter method to reveal the effect of independent variables (satisfaction with medical and administrative services and interest and courtesy) on the dependent variable (patient commitment).

Results

Socio-Demographic Characteristics of the Participants

According to the information in Table 1, 80% of the participants are under the age of 45 and about 2/3 of them are female. According to marital status, nearly 40% of the participants are single. Looking at the education level of the participants, the highest rate is in the bachelor group (42.1%). The lowest rate is (3.9%) in the master's degree group. The ratio of primary and middle school graduates is over 1/3. When seen in the last visit of the participants to the hospital, the rate of those who go to the university hospital is higher than the others but very close to the public hospital. According to the average monthly income of the participants, those who make up to 1.600 TL have the lowest.

Table 1. *Socio-Demographic Characteristics of the Participants (N=280)*

<i>Gender</i>	<i>N</i>	<i>%</i>	<i>Education Level</i>	<i>N</i>	<i>%</i>
Male	95	33.9	Primary school	73	26.1
Female	185	66.1	Middle school	28	10.0
<i>Age Interval</i>			<i>High-school</i>	50	17.9
18-24	61	21.8	Bachelor's	118	42.1
25-31	50	17.9	Master's degree	11	3.9
32-38	58	20.7	<i>Marital Status</i>		
39-45	55	19.6	Married	169	60.4
46 and older	56	20.0	Single	111	39.6
<i>Monthly Income</i>			<i>Recently Visited Hospital</i>		
0-1600 TL	21	7.5	Public hospital	101	36.1
1601-2500 TL	82	29.3	Private hospital	73	26.1
2501-3500 TL	89	31.8	University hospital	106	37.9
3501-4500 TL	44	15.7	<i>Total</i>	280	100%
4500 TL and above	44	15.7			

TL= Turkish Lira.

1 TL= 0.1605 EUR (15.01.2019, according to data of the Central Bank of Turkey, Retrieved from <https://www.tcmb.gov.tr/>).

Reliability analysis

The scales used in the study are the scale of patient satisfaction and patient commitment. Patient satisfaction has three sub-dimensions that are medical satisfaction, interest-courtesy, and administrative satisfaction. There is no sub-dimension of patient commitment (Erdem et al. 2008).

Table 2. Reliability Analysis

Scales and Sub-Dimensions	Number of Items	Cronbach's alpha	Erdem et al.
<i>Patient Satisfaction</i>	14	0.799	0.90
<i>Medical Satisfaction</i>	3	0.520	0.72
<i>Interest and Courtesy</i>	5	0.616	0.65
<i>Administrative Satisfaction</i>	6	0.761	0.82
<i>Patient Commitment</i>	11	0.911	0.92

The coefficients of Cronbach's alpha (α) are shown in Table 2, according to the reliability analysis of patient commitment and overall satisfaction scales and sub-dimensions. The values of Cronbach's alpha (α) are shown in Table 2, according to the reliability analysis of patient commitment and overall satisfaction scales and sub-dimensions. According to this information, Cronbach's α coefficient of patient commitment is the highest, and the lowest level of medical satisfaction.

Correlation analysis

Correlation analysis is a statistical analysis technique used to determine whether the relationship between scale and sub-dimensions by making binary comparisons and the direction (+/-) in which the relationship/relationships if there is a relationship, or used in the evaluation of the hypotheses generated in the research. Otherwise, to determine the correlation technique being used was investigated the normality of the distribution.

The results of the correlation analysis between the scales and the sub-dimensions are shown in Table 3.

In the correlation analysis, the strength of the relationship between the scale and sub-dimensions is showed: very low between 0-20; 21-40 low; 41-60 mid; high between 61-80 and very high between 81-100 (Karagöz 2016; Yıldırım-Kaptanoğlu and İşçi 2013).

According to the results of Spearman Correlation Analysis in Table 3, there was a statistically positive, high, and significant relationship between overall patient satisfaction and patient commitment ($r=0.686$; $p<0.01$).

Table 3. Spearman Correlation Test

Scales and Sub-Dimensions (N=280)		A	B	C	D	E
Patient Satisfaction (A)	r	1.000	0.672**	0.686**	0.863**	0.686**
	p		0.000	0.000	0.000	0.000
Medical Satisfaction (B)	r		1.000	0.352**	0.427**	0.480**
	p			0.000	0.000	0.000
Interest and Courtesy (C)	r			1.000	0.401**	0.573**
	p				0.000	0.000
Administrative Satisfaction (D)	r				1.000	0.556**
	p					0.000
Patient Commitment (E)	r					1.000
	p					

**p<0.01 (2-tailed) (level of statistical significance).

r=correlation coefficient.

p=significance level.

Comparative Analyses

Comparison by gender

In Table 4, there was no statistically significant difference between male and female patients in terms of overall and sub-dimensions of patient satisfaction and patient commitment scale ($p<0.05$).

Table 4. Comparison by Gender (N=280)

Scales and Sub-Dimensions		N	Mean Rank	Mann-Whitney U	Z	p
Patient Satisfaction	Male	95	136.69	8426	-0.566	0.571
	Female	185	142.46			
Medical Satisfaction	Male	95	129.88	7779	-1.621	0.105
	Female	185	145.95			
Interest and Courtesy	Male	95	138.84	8630	-0.256	0.798
	Female	185	141.35			
Administrative Satisfaction	Male	95	138.00	8550	-0.376	0.707
	Female	185	141.78			
Patient Commitment	Male	95	147.57	8116	-1.057	0.291
	Female	185	136.87			

Comparison by marital status

According to the Mann-Whitney U test performed in terms of the marital status in Table 5, there was a statistically significant difference between both the scale scores and the sub-dimension scores ($p<0.01$). Patient satisfaction and patient commitment vary according to marital status. When the general satisfaction scores were examined, the average of singles was higher than the average of those who were married.

Table 5. Comparison by Marital Status (N=280)

Scales and Sub-Dimensions		N	Mean Rank	Mann-Whitney U	Z	p
<i>Patient Satisfaction</i>	Married	169	125.56	6855	-3.821	0.000*
	Single	111	163.24			
<i>Medical Satisfaction</i>	Married	169	128.19	7300	-3.237	0.001*
	Single	111	159.24			
<i>Interest and Courtesy</i>	Married	169	127.13	7120	-3.549	0.000*
	Single	111	160.86			
<i>Administrative Satisfaction</i>	Married	169	127.43	7170	-3.381	0.001*
	Single	111	160.41			
<i>Patient Commitment</i>	Married	169	125.08	6773	-3.967	0.000*
	Single	111	163.98			

*p<0.01 (level of statistical significance).

Comparison by age

According to the Kruskal-Wallis H test conducted between age groups, a statistically significant difference was found in terms of both the general and sub-dimensions of patient satisfaction and the scale of patient commitment ($p<0.01$). In the Bonferroni correction test conducted to reveal the source of the difference between the groups, 18-24 age group were numbered as 1; 25-31 age group as 2; 32-38 age group as 3; 39-45 age group as 4, and 46 age and above age group as 5.

Accordingly, Bonferroni correction was found to be $0.05/5=0.01$ because of the number of groups in the variable (five). The results of the Mann-Whitney U test conducted to find the source of the difference are shown in Table 6. In consonance with Table 6, the source of the difference in both the general and sub-dimensions of patient satisfaction and the patient's commitment scale derived from the group of 18-24.

Patient satisfaction and its sub-dimensions, as well as patient commitment, the mean of 18-24 age group was higher than other age groups. Based on these results, patient satisfaction and patient commitment differ according to age.

Comparison by education

According to the Kruskal-Wallis H test conducted in terms of education status, a statistically significant difference was found concerning both the overall patient satisfaction and interest and courtesy sub-dimension ($p<0.05$). In the Bonferroni correction test conducted to reveal the source of the difference between the groups, the primary school was numbered as 1, middle school as 2, high-school as 3, bachelor's degree as 4 and master's degree as 5.

Table 6. Comparison by Age (N=280)

Scales and Sub-Dimensions		N	Mean Rank	Chi-square	p	Bonferroni
<i>Patient Satisfaction</i>	18-24	61	201.39	46.3	0.000*	1-2 (0.000)* 1-3 (0.000)* 1-4 (0.000)* 1-5 (0.000)*
	25-31	50	123.40			
	32-38	58	116.22			
	39-45	55	135.98			
	46 and over	56	119.03			
<i>Medical Satisfaction</i>	18-24	61	190.67	33.0	0.000*	1-2 (0.002)* 1-3 (0.000)* 1-4 (0.000)* 1-5 (0.000)*
	25-31	50	125.37			
	32-38	58	121.34			
	39-45	55	135.96			
	46 and over	56	123.65			
<i>Interest and Courtesy</i>	18-24	61	188.16	31.9	0.000*	1-2 (0.002)* 1-3 (0.000)* 1-4 (0.000)* 1-5 (0.000)*
	25-31	50	135.89			
	32-38	58	129.46			
	39-45	55	131.21			
	46 and over	56	113.27			
<i>Administrative Satisfaction</i>	18-24	61	195.13	37.8	0.000*	1-2 (0.000)* 1-3 (0.000)* 1-4 (0.000)* 1-5 (0.000)*
	25-31	50	124.50			
	32-38	58	117.42			
	39-45	55	134.52			
	46 and over	56	125.05			
<i>Patient Commitment</i>	18-24	61	207.41	58.1	0.000*	1-2 (0.002)* 1-3 (0.000)* 1-4 (0.000)* 1-5 (0.000)*
	25-31	50	117.47			
	32-38	58	132.33			
	39-45	55	130.63			
	46 and over	56	106.34			

*p<0.01 (level of statistical significance).

Bonferroni correction was found to be $0.05/5=0.01$ because of the number of groups in the variable (five). The results of the Mann-Whitney U test conducted to find the source of the difference are shown in Table 7. Accordingly, the source of the difference in both the overall and sub-dimensions of patient satisfaction and interest and courtesy sub-dimension originated from primary school and the bachelor's degree. Based on these results, patient satisfaction and interest and courtesy vary according to education status. In the sub-dimension of administrative satisfaction, there was a significant difference. But the source of the difference was not found. In the dimension of medical satisfaction and patient commitment do not differ according to education status. The overall patient satisfaction scores of those with the bachelor's degrees were the highest, and of those with primary school students were the lowest.

Table 7. Comparison by Education (N=280)

Scales and Sub-Dimensions		N	Mean Square	Chi-square	p	Bonferroni
<i>Patient Satisfaction</i>	Primary School	73	121.70	9.539	0.049*	1-4 (0.007)**
	Middle School	28	123.29			
	High-school	50	150.53			
	Bachelor's	118	153.51			
	Master's Degree	11	123.91			
<i>Medical Satisfaction</i>	Primary School	73	134.67	2.642	0.619	
	Middle School	28	122.96			
	High-school	50	142.99			
	Bachelor's	118	146.76			
	Master's Degree	11	145.32			
<i>Interest and Courtesy</i>	Primary School	73	113.45	12.975	0.011*	1-4 (0.001)**
	Middle School	28	147.23			
	High-school	50	144.61			
	Bachelor's	118	154.36			
	Master's Degree	11	135.45			
<i>Administrative Satisfaction</i>	Primary School	73	125.38	12.162	0.016*	
	Middle School	28	106.89			
	High-school	50	154.80			
	Bachelor's	118	152.76			
	Master's Degree	11	129.86			
<i>Patient Commitment</i>	Primary School	73	128.50	9.006	0.061	
	Middle School	28	121.54			
	High-school	50	142.00			
	Bachelor's	118	154.95			
	Master's Degree	11	106.55			

*p<0.05 (level of statistical significance).

**p<0.01 (level of statistical significance).

Comparison by recently visited hospital

According to the Kruskal-Wallis H test conducted in terms of the hospital visited recently, it was found a statistically significant difference in terms of both the overall patient satisfaction and sub-dimensions and patient commitment ($p<0.05$). In the Bonferroni correction test conducted to reveal the source of the difference between the groups, public hospital was numbered as 1, private hospital as 2, and university hospital as 3.

Accordingly, Bonferroni correction was found to be $0.05/3=0.017$ because of the number of groups in the variable (three). The results of the Mann-Whitney U test conducted to find the source of the difference is shown in Table 8. The source of the difference in both the general and sub-dimensions of patient satisfaction and patient commitment derived from the public hospital-the private hospital and the public hospital-the university hospital. But the source of the difference in interest and courtesy dimension originated from the public hospital-the private hospital. Looking at these comparisons, in terms of patient satisfaction and patient commitment, the approaches of the patients visiting the public hospital and the university hospital were close to each other. Only in the interest and courtesy dimension, there was a significance in terms of the patients visiting the public and private hospital.

When viewed on average values, the average satisfaction of those who applied to the public and university hospitals was higher than those admitted to the private hospital.

Based on these results, patient satisfaction and sub-dimensions differed according to the hospital that was last visited.

Table 8. Comparison by Recently Visited Hospital (N=280)

Scales and Sub-Dimensions		N	Mean Rank	Chi-square	p	Bonferroni
<i>Patient Satisfaction</i>	Public Hospital	101	165.52	54.876	0.000*	1-2 (0.000)* 2-3 (0.000)*
	Private Hospital	73	80.58			
	University Hospital	106	157.92			
<i>Medical Satisfaction</i>	Public Hospital	101	152.56	27.088	0.000*	1-2 (0.000)* 2-3 (0.000)*
	Private Hospital	73	99.52			
	University Hospital	106	157.23			
<i>Interest and Courtesy</i>	Public Hospital	101	157.81	13.372	0.001*	1-2 (0.000)*
	Private Hospital	73	114.24			
	University Hospital	106	142.09			
<i>Administrative Satisfaction</i>	Public Hospital	101	161.52	50.962	0.000*	1-2 (0.000)* 2-3 (0.000)*
	Private Hospital	73	83.32			
	University Hospital	106	159.85			
<i>Patient Commitment</i>	Public Hospital	101	161.27	40.917	0.000*	1-2 (0.000)* 2-3 (0.000)*
	Private Hospital	73	88.96			
	University Hospital	106	156.21			

*p<0.01 (level of statistical significance).

Comparison by monthly average income status

As a result of the Kruskal-Wallis H test conducted according to the monthly average income status in Table 9, there was no statistically significant difference between the overall patient satisfaction and sub-dimensions and patient commitment ($p>0.05$).

Regression Analysis

Using the Enter method in the regression analyses, it was observed the success of foreseeing the model by adding independent variables in the model and the rate of change that each independent variable occurred on the dependent variable (Karagöz 2016). Firstly, it was examined the effect of overall patient satisfaction on the scale of patient commitment by conducting simple linear regression analysis, and then the effect on the patient commitment of the sub-dimensions of patient satisfaction by multiple regression analysis.

Table 9. Comparison by Monthly Average Income Status (N=280)

Scales and Sub-Dimensions		N	Rank Mean	Chi-square	p
General Satisfaction	0-1600 TL	21	158.31	2.484	0.648
	1601-2500 TL	82	138.40		
	2501-3500 TL	89	144.80		
	3501-4500 TL	44	140.28		
	4501 TL and above	44	127.43		
Medical Satisfaction	0-1600 TL	21	149.83	1.999	0.736
	1601-2500 TL	82	142.66		
	2501-3500 TL	89	141.66		
	3501-4500 TL	44	144.26		
	4501 TL and above	44	125.91		
Interest and Courtesy	0-1600 TL	21	135.31	5.131	0.274
	1601-2500 TL	82	125.45		
	2501-3500 TL	89	150.46		
	3501-4500 TL	44	142.86		
	4501 TL and above	44	148.51		
Administrative Satisfaction	0-1600 TL	21	176.14	4.980	0.289
	1601-2500 TL	82	140.04		
	2501-3500 TL	89	139.58		
	3501-4500 TL	44	135.66		
	4501 TL and above	44	131.05		
Patient Commitment	0-1600 TL	21	153.86	3.105	0.540
	1601-2500 TL	82	135.23		
	2501-3500 TL	89	148.87		
	3501-4500 TL	44	127.23		
	4501 TL and above	44	140.31		

Effect of patient satisfaction on patient commitment

Table 10 shows the results of the regression analysis conducted to find whether patient satisfaction affects patient commitment. It was statistically significant the regression model established according to the result of the analysis ($F_{(1,278)}=327.849$; $p<0.000$). According to the results of the analysis, patient satisfaction affects patient commitment ($B=0.918$; $p<0.01$). 54.1% of patient commitment is explained by patient satisfaction, according to the regression model. Patient satisfaction makes changes by 91.8% in patient commitment. To explain the change of 8.2% is needed for other variables.

Table 10. Effect of Patient Satisfaction on Patient Commitment

Dependent Variable	Independent Variable	R ²	Adjusted R ²	F	p	B	t	p
Patient Commitment	Constant	0.541	0.544	327.849	0.000*	-2.527	-1.500	0.135
	Patient Satisfaction					0.918	18.107	0.000*

Multiple regression analysis

Table 11 presents the results of multiple regression analysis to determine whether the sub-dimensions of patient satisfaction affect patient commitment. The regression modelled was statistically found significant ($F_{(3,276)}=111.810$;

$p < 0.000$), according to the result of the analysis. $R^2 = 0.549$ shows the fit of the model is moderate.

Table 11. Multiple Regression Analysis

Dependent variable	Independent variable	R ²	Adjusted R ²	F	p	B	Tolerance	VIF	t	p
Patient Commitment	Constant	0.549	0.544	111.810	0.058					0.000
	Medical Satisfaction				0.000	0.292	0.765	1.307	6.312	
	Interest and Courtesy				0.000	0.322	0.801	1.248	7.125	
	Administrative Satisfaction				0.000	0.339	0.708	1.413	7.059	

This model developed according to the adjusted R² model would explain 54.4% of the total variance if produced from the universe instead of the sample. Because of the Variance of Inflation Factor (VIF) is less than 10, and the tolerance statistics are over 0.2 in sub-dimensions of the scale, it shows there is no problem in this model. Therefore, there is no need to correct the independent variables (Karagöz 2016). The sub-dimensions of patient satisfaction affect patient commitment (B=0.292; 0.322; 0.339; $p < 0.01$), according to the results of the analysis. 54.1% of patient commitment is explained by patient satisfaction, according to the regression model. Of the sub-dimensions of patient satisfaction, medical satisfaction makes changes of 29.2% in the patient commitment, interest-courtesy in 32.2%, and administrative satisfaction in 33.9%.

Discussion and Conclusion

It was examined the effect of patient satisfaction on patient commitment according to the hospital where patients visited in Konya province.

According to the results obtained from the study, 80% of the participants are under the age of 45 and approximately 2/3 of them are female and 40% of them are single. When examined the education level of the participants, the highest rate is in the bachelors' group (42.1%) and the lowest (3.9%) in the masters' degree. The ratio of primary and middle school graduates is more than 1/3. When examined the hospital last visited, the rate of those visiting the university hospital is higher than the others, but it is very close to the public hospital. When examined the average monthly income, the ratio of those who are up to 1.600 TL is the lowest.

In the study conducted by Jung and Sung (2018), a significant relationship was found between patient satisfaction and patient commitment in nursing services in the hospital. According to the results of the study conducted by Pao-Chun et al. (2018), there was a significant relationship between patient commitment and patient satisfaction ($r = 0.768$; $p < 0.01$). Similar results confirming our study were found.

Patient satisfaction and patient commitment differed according to marital status, age, and recently visited the hospital ($p < 0.01$). According to the education

level, there was a significant difference in overall satisfaction and sub-dimensions of interest and courtesy, and administrative satisfaction ($p < 0.05$). It was not found a significant difference according to gender and monthly average income ($p > 0.05$). As an example, while some studies have concluded that women are more satisfied, in some studies men are more satisfied, while others have no relationship between gender and satisfaction (Yılmaz 2001).

Looking at the overall satisfaction scores, the average of those who are single is considerably higher than the average of those who are married. The source of difference in both the overall patient satisfaction and the sub-dimensions and patient commitment is the group of 18-24. With patient satisfaction and the sub-dimensions, the mean of the 18-24 age group in patient commitment is higher than other age groups. The source of the difference both in the overall patient satisfaction and the sub-dimension of interest and courtesy are those who are graduates of primary school and bachelors.

The source of the difference both in overall patient satisfaction and sub-dimensions and patient commitment is public hospital-private hospital and private hospital-university hospital. The source of difference in interest and courtesy sub-dimension is the public hospital-private hospital. Looking at these comparisons, approaches of those visited a public hospital and university hospital in terms of patient satisfaction and patient commitment are close to each other; nothing but, there is significance in terms of patients visiting a public hospital and private hospital in the dimension of interest and courtesy. Examining the average values, the average of satisfaction from the health service of those who apply to public and university hospitals is higher than those who admit to a private hospital. Contrary to our study, according to a study conducted on those receiving outpatient service from a public and a private hospital in Kahramanmaraş province, those who admitted to the private hospital had higher interest and kindness than those applied to the public hospital and it was concluded the service provided by physicians was more satisfactory (Taşlıyan and Gök 2014).

According to the result of our study was reached that patient commitment was influenced by the administrative satisfaction, interest and courtesy, and the satisfaction of medical services, respectively. According to the study conducted by Erdem et al. (2008) were obtained the result that interest and kindness dimension highly affected patient commitment, then the satisfaction of the administrative services and the satisfaction with medical services, respectively. In the study conducted by Lestariningsih et al. (2018) it was found that patient satisfaction had a positive effect on patient commitment ($p = 0.003$; path coefficient = 0.296). In the study conducted by Pao-Chun et al. (2018) similarly, it was found that patient satisfaction had a positive impact on patient commitment ($\beta = 0.239$, $p = 0.00$). In similar studies conducted by Pramita (2019) ($p = 0.011$; $r = 0.275$) and Ramli (2017) ($p < 0.05$; $t = 2.5492$), it was found that patient satisfaction had a positive and significant effect on patient commitment. In the study conducted by Juhana et al. (2015), they concluded that patient satisfaction had a 76.1% effect on patient commitment. According to the results of the study conducted by Dachyar et al. (2018) patients' satisfaction affects patient commitment. Hossain et al. (2019) found that the satisfaction of patients in Bangladesh had a positive influence on

their' commitment to the health-care providers in their study. Permana et al. (2019) and Mahendrayana et al. (2018) found that patient satisfaction had a positive and significant effect on patient commitment.

In a similar study conducted by the Tüfekçi and Asıgbulmuş (2016), the first three factors that are most effective in hospital preference are in order of trust, expert physician preference, and satisfaction. The three factors that are effective not to re-prefer the hospital are in order of the absence of physician apathy, insufficient examination, and tolerance.

The results of the study cannot be generalized to the universe, since it is limited to patients receiving treatment services from public, private, and university hospitals in Karatay District center in Konya Province in January 2019. It is necessary to work with large sampling numbers that can represent the universe to generalize. For researchers, similar studies are recommended in patients receiving both outpatient healthcare services and primary care services in hospitals.

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