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Examination of the Satisfaction Levels of Hemodialysis Patients

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ABSTRACT The purpose of this study is to examine the satisfaction levels of patients who are being treated in hemodialysis unit in terms of different variables. A total of 222 patients were included in the research and they were being treated in nursing homes in the provinces of Istanbul, Sivas, Izmir, Ankara, Bolu, Gaziantep, Tekirdag and Diyarbakir. A questionnaire consisting of two parts was used as data gathering tool in the research. Reliability level of the scale items was tested and reliability coefficient (Cronbach Alpha) was found to be 0.933. It was derived from chi-square test, t-test and variance analysis techniques, frequency analysis, percentage and average values in the analysis of the acquired data. Furthermore, chi-square cross-table analysis was used in order to measure the satisfaction levels of individuals according to their demographic characteristics. At the end of the research, it was discovered that the satisfaction levels of the patients were low in general, and that dissatisfaction was on the highest level, especially in terms of information and as regards training.

INTRODUCTION

It is a well-accepted truth by many health institutions and establishments that today's health services can be maintained with professional management mentality and approaches. Patients' satisfaction is placed on the front burner in many researches (Korkmaz et al. 2015a). Patients' demands and immediate treatment are pretty important particularly in health institutions which render services with new technology (Korkmaz et al. 2015b). More patients' admission by health institutions, patients' satisfaction and patients' preferring the same institution are very important in changing and developing competitive environment. Increase in the number of health institutions (public and private) from which patients can get healthcare services, service features, patients' rights and increasing patient awareness make the topic even more sensitive. Establishments which render more qualified healthcare and other necessary services which satisfy patients in health institutions will survive and enhance sustainability in the service they provide.

In this context therefore, the main purpose of this study is to examine the satisfaction levels of hemodialysis patients, who are obliged to receive regular dialysis treatment and whose physical and social lives are seriously affected, in regards to the health services they get from health institutions in which they are treated.

Literature and Theoretical Framework

End-stage chronic renal failure (ESCRF) is one of the most important morbidity and mortality causes all over the world (Perlman et al. 2005). Hemodialysis (HD) is a complex procedure for patients which takes place in hospitals or dialysis centers, mainly three times a week, thus, implying substantial changes in the normal routine of patients' everyday lives (Gerasimoula et al. 2015). Rate of increase in HD (hemodialysis) patients in the world is 6-7 percent while this rate is 10-12 percent in Turkey. There were 1.815.000 HD patients and 213.000 PD (peritoneum dialysis) patients in the world by 2010. There are 853 patients per million individuals in Turkey (Süleymanlar et al. 2011).

On the other hand, according to 2004 data of the Ministry of Health, 29.775 hemodialysis patients received dialysis treatment in dialysis units of private and public hospitals in Turkey (Impatient Treatment Institutions Statistics Annual 2005: 41). According to 2007 data of Turkish Society of Nephrology, it was stated that kidney transplantation was performed for 1316 patients because of renal failure, hemodialysis was applied for 39267 patients and peritoneum dialysis treatment was applied for 5307 patients in Turkey (Nephrology – Dialysis and Transplantation in Turkey 2007; Registry Report 2008). There were 71313 patients with end-stage renal failure, who received renal replacement treatment and 55.890 of them were hemodialysis, 4306 of them were peritoneum dialysis and 11122 of them had kidney transplantation in Turkey by the end of 2014 (http://www.medikalakademi.com.tr). Hemodialysis treatment extends the lifespan of patients; however it also brings along many physical, mental and psycho-social problems (Okanli 2005: 575). This may affect expectations of hemodialysis patients and perceptions and satisfaction levels of the patients from the given service and service quality.

Meeting expectations and needs of the patients is capable of causing an individual to feel herself/himself important, and also to facilitate her/his adaptation to the treatment (Küçük 2008). The perceived satisfaction is significant in enabling this adaptation (Esit and Karadeniz 2006). Today, medical institutions have to scientifically evaluate the needs and expectations of patients and offer the healthcare services that please them rather than expecting that patients accept and use just about any service that is offered to them (Cihangiroglu and Uzuntarla 2016).

Customer satisfaction in health institutions can be defined as "meeting demands and expectations of customers or as rendering services more than these demands and expectations" (Kavuncubasi 2000: 293). Providing satisfaction which is one of the most important criteria in the assessment of service quality is the basic condition for a health institution to be able to be successful (Agirbas 2002).

Service quality provided by health institutions will be assessed by the satisfaction levels of those who are receiving the service, that is, the patients and their relatives. And this is an important criterion in assessing performance.

Patients come with various expectations regarding hospital cares and their satisfaction levels not only affect their perceptions about the quality of healthcare they receive, but also their perceptions about the health institution and the quality of health system as a whole (Degirmenci 2006).

Recently, health services sector has experienced significant changes in Turkey and the competition is on the increase. In such an environment, healthcare providers are obliged to combine traditional healthcare service approach which gives importance to the presentation of health services effectively with customer (patient) orientation principle which takes satisfaction of the patient into account in order to provide competitive superiority and maintain this superiority. As a result of this, service quality and patient satisfaction issues are becoming a critical importance for healthcare providers (Dursun and Çerçi 2004).

Service quality is stated as "providing outstanding or perfect service for meeting customer expectations" or "the ability of an institution to meet customer expectations or provide more service than the expectations". Both of these definitions focus on the customers determining quality in service establishments. Therefore, it is pretty important how quality is perceived by the customers in service establishments (Devebakan 2005). According to the results of many researches, patient satisfaction is based on whether the rendered service meets the expectations of the patient or the perception of the patient about the said service (Yilmaz 2001).

Due to the fact that hospitals are service institutions which perform necessary examinations and treatments mainly for the health of patients and which provide healthcare services for the benefits of their customers, the basic principle in these institutions is patients' gratification and satisfaction, as well. Health institutions should provide qualified health service for patients in order to achieve the abovementioned conditions (cited from Kamçi by Gülmez 2005: 148). Patients' satisfaction is an important part of qualified service. Determining patients' satisfaction is significant in terms of increasing service quality and providing more qualified service in line with the expectations of patients (Söylemez 2009: 110). Patients' satisfaction is "the key criterion demonstrating the quality of healthcare and showing that the main authority is the patient by giving information which talks about to what extent values and expectations of the patient is met" (Kilinç 2009: 239) or one of the main criteria used in assessing service quality in health institutions (Uzkesici 2002: 303). Patients' satisfaction is accepted as a result of the healthcare services rendered and a demonstration of service quality (Mpinga and Chastonay 2011). A patient who is satisfied with the healthcare services becomes a loyal customer of the hospital and always prefers the same hospital unless a negative situation occurs (Gülmez 2005: 148).

Factors affecting patient satisfaction can be divided into three parts namely, features regarding patient, features regarding service providers and institutional features (Özer and Çakil 2007):

Features Regarding Patient: Age, gender, level of education, social insurance situation, income, type of the disease and length of hospital stay of the patient.

Satisfaction levels of chronic patients, those who have complications depending on their diseases or those with more than one disease are lower (Redekop et al. 2002). On the contrary, those whose health is getting better naturally possess higher satisfaction levels (Dinç et al. 2009).

Features Regarding Service Providers: Personal characteristics, educational level of healthcare personnel, their tenderness, interest and politeness towards patients.

Institutional Features: Whether the hospital in which healthcare service is rendered is public, university or private hospital and its physical (lighting, heating, ventilation, waiting rooms, parking area, etc.) opportunities.

Therefore, it is pretty important for healthcare institutions and hospitals to determine measure and assess patients' satisfaction parameters for being able to gain competition superiority and maintain this superiority (Patwardhan and Patwardhan 2008). In this regard, today, a service mentality which is not customer-focused and is not based on patient satisfaction in both public and private sector cannot be evaluated as a contemporary health service (Bostan et al. 2007).

The increase in educational levels and incomes of service users in both production and service sector also causes permanent increase and change in their demands and/or expectations. This situation is also valid for the patients who are service users. Patients' receiving service in accordance with their expectations or more than their expectations is becoming a strong argument in enabling their satisfactions. Thus, measuring patient satisfaction by health establishments is applied not only for determining whether patients are satisfied with the service rendered, but also for health institutions' assessing their performances (Varinli and Çakir 2004). This study aims at researching the satisfaction levels of hemodialysis patients in various aspects regarding healthcare services they receive from health institutions and examining related socio-demographic variables.

METHODOLOGY

Due to the fact that the measuring tool used in this research was not used before, a pretesting research was performed before this research. The research is a scale development research. 52 hemodialysis patients in total were included into the first research. These patients attended the research from Istanbul and Ankara provinces. The attendees were determined through simple random method. The attendees of the pretesting were asked to reflect their own opinions and thought by delivering them questionnaires by hand. Before the pretesting, an official permission was received from Cumhuriyet University Deanship of Faculty of Arts with 81011618/044/234 number and 06.03.2015 date. The main research was performed with the samples from Istanbul, Sivas, Izmir, Ankara, Bolu, Gaziantep, Tekirdag and Diyarbakir provinces of Turkey

Universe. Among the basic reasons for preferring those provinces were density of patients, technology used in treatment, insufficiencies and demographic distributions of patients. The research was composed of patients receiving treatment in private clinics in the provinces taking place within the current sample. While determining patients, especially those who were diagnosed with hemodialysis, those who were exposed to hemodialysis treatment for at least 2 years were selected. Another important research factor was economic sufficiency of the attendees and their levels of knowledge and "education" being below average. Before the research, patients benefiting from public institutions and receiving treatment were also desired to be included in the research; however; permission could not be got from the related public healthcare institutions and local health authorities. Therefore, public healthcare institutions were excluded from the research. Questionnaire data acquired from 52 patients after the first pretesting was analyzed with SPSS statistical program and reliability coefficient "Cronbach Alpha" value was found to be 0.746. Due to the fact that that value was lower than the expected value, some questions affecting the value were excluded from the questionnaire, reanalysis was made and Cronbach Alpha coefficient value was found to be 0.827. This value shows the reliability of the measuring tool used in the research. Before performing this research, 3 pedagogues, 2 economics experts, 2 specialist physicians, 1 psychologist, 2 sociologists, 5 specialist nurses and 2 child development specialists contributed to the research. After the opinions acquired from these specialists and the preliminary field research, the questions to be asked to the patients and scales were determined. The questionnaire used in the main research is composed of two parts. In the first part, there are 29 demographic questions regarding attendees while in the second part, there are 35 questions composed of 5 point Likert scale. In the main research, 2500 questionnaire forms were delivered to the attendees by e-mail, hand and mail. However, number of questionnaire forms which came back were 387. The research lasted for approximately 8 months. None of the attendees was asked to give their actual identity information and patients' rights were prioritized during the research. All attendees participated in the research with their own wills.

RESULTS

In Table 1, frequency analysis results of the attendees regarding their demographic characteristics are shown. Frequency and percentage values are given for frequency analysis. Among the demographic characteristics, variables of education, gender, age, income, chronic disease, residency situation and social insurance were used. In Table 1, the rate of female participants having high school and above education is 49.1

Table 1: Frequency analysis results about the sample

Variable	*Frequency*	*Percent*
Education		
Illiterate	13	5.9
Literate	49	22.1
Primary	51	23.0
High	37	16.7
Undergraduate	64	28.8
Postgraduate	8	3.6
Gender		
Female	94	42.3
Male	128	57.7
Age		
Below18	39	17.6
18-30	86	38.7
31-50	26	11.7
51-65	18	8.1
Over 65	53	23.9
Do you have a Chronic Disorder?		
Yes	36	16.2
No	186	83.8
Income		
No income	38	17.1
800-1000	70	31.5
1001-1250	31	14.0
1251-1750	24	10.8
1751-2500	42	18.9
2501-3500	17	7.7
Residence Area		
City	99	44.6
Village	53	23.9
Town	18	8.1
District	52	23.4
Social Security		
SSK (Social Insurance Institution in Turkey)	76	34.2
Bagkur (Social Security Organization for Artisans and The Self-Employed in Turkey)	75	33.8
Emekli sandigi (Retirement Fund of Civil Servants in Turkey)	50	22.5
Yesil kart (Health Card for Uninsured People in Turkey)	17	7.7
None	4	1.8

percent, the rate of male participants is 57.7 percent. The majority of the participants is composed of those in the age group of 18-30 (38.7%), without a chronic disease (83.8%), having an income of 1250 TL and less (62.6%), living in the city (44.6%) and having the social security from SSK (social security), Bagkur (Social Security Organization for Artisans and the Self-Employed) and Pension Fund (Table 1).

In Table 2, values of reliability coefficient of the questionnaire are shown if the item is deleted. According to these values, reliability coefficient does not show a significant increase when all item are excluded from the analysis. According to this result, all questionnaire questions were included in the analysis (Table 2).

Table 2: Cronbach alpha values for each item when the related item is deleted

Item	*Cronbach's Alpha if item deleted*
s1	.934
s2	.934
s3	.934
s4	.935
s5	.935
s6	.930
s7	.930
s8	.931
s9	.931
s10	.931
s11	.931
s12	.931
s13	.930
s14	.930
s15	.929
s16	.930
s17	.930
s18	.930
s19	.930
s20	.929
s21	.929
s22	.930
s23	.930
s24	.931
s25	.931
s26	.930
s27	.930
s28	.930
s29	.931
s30	.931
s31	.931
s32	.931
s33	.930
s34	.931
s35	.931

In Table 3, average and standard deviation values are shown regarding questionnaire questions. When it was observed in general terms, it was seen that averages of the questionnaire questions are below 3. And this shows that satisfaction levels of the attendees are generally below medium level. Among the scale items taking place in the questionnaire, score average of the statement "Toilets and bathrooms that I used were clean." possesses maximum value. Individuals are relatively more satisfied with the cleanness of toilet and bathroom than other conditions. Due to the fact that score average of the statement "I was informed of the things I should do and things I should not do depending on the treatment process applied and I was supported in terms of training." was minimum, individuals are rather dissatisfied with being informed and with training (Table 3).

Chi-square Analyses

Chi-square analysis technique was conducted in order to measure the relationship between demographic variables and general satisfaction level. The analysis was performed by taking the following statements as basis in terms of general satisfaction: "I possess positive thoughts about hemodialysis unit and general quality of the hospital (patient care, medical technology, personnel)." and "If I need another treatment, I prefer this hospital again." Hypotheses for measuring the relationship between this categorical questions taking place within the questionnaire and individual characteristics were formed as follows:

Ho: There is not a relationship between the related characteristic of the individual and the item.

Hi: There is a relationship between the related characteristic of the individual and the item.

Depending on the abovementioned hypotheses, the relationship between variables and questionnaire questions were tested.

In Table 4, Chi-square analysis results are shown. Test statistics and corresponding significance values are given for chi-square analysis. According to analysis results, there is a statistically significant relationship between the variables of education, income and social security and the statement of "If I need another treatment, I prefer this hospital again" ($p<0.05$). Cross tables are given for the variables possessing significant relationship statistically. There is a difference in preferring the hospital again depending on education, income and social security condition of individuals (Table 4).

Table 3: Descriptive statistics for the items

Item	*Mean*	*Std. deviation*
The employee in charge was polite and interested in me when I visited the hemo dialysis unit.	2.78	1.17
Toilets and bathrooms that I used were clean.	2.91	1.10
Before starting dialysis, sufficient information about hemodialysis rules (service hours, changing rooms, weighing scale use, etc.) was given.	2.85	1.08
I was not exposed to a significant noise in the unit I was staying.	2.80	1.17
Cleanness in the hemodialysis unit was pretty good.	2.89	1.15
I found sufficient heating and ventilation of the room where I received dialysis treatment.	1.96	1.20
Food offered by the hemodialysis unit was in sufficient quantity.	2.18	1.29
Physicians gave answers to my questions which were important for me in a way that I could understand.	2.10	1.21
I trust the physicians treating me.	2.08	1.25
Attitudes of the physicians towards me were polite and caring.	2.26	1.41
I trust the nurses handling my treatment process.	2.08	1.27
Attitudes of nurses towards me were so polite and caring.	2.20	1.29
My opinion is taken into consideration when it comes to treatment decisions given by the physicians about me during my treatment process.	2.10	1.29
My opinion is taken into consideration when it comes to caring decisions given by the nurses about me during my treatment process.	2.15	1.36
When one of my relatives or friends wanted to talk to the physician, they were given that opportunity.	2.03	1.29
When I went through an examination and during hemodialysis, the necessary sensitivity was displayed for my privacy.	2.19	1.36
When I needed to make a call, the call I made to the physician, nurse or other personnel was answered.	2.18	1.32
Physicians and nurses adequately informed us of the possible problems that we might encounter after hemodialysis.	2.11	1.31
Generally, I was satisfied with the care and treatment provided for me.	2.05	1.31
I think physicians, nurses and the personnel did their best for me.	2.13	1.27
I think I was sufficiently informed of patient rights.	1.87	1.16
I think I was sufficiently informed of the responsibilities of patients.	2.00	1.19
I possess positive thoughts about hemodialysis unit and general quality of the hospital (patient care, medical technology, personnel).	1.91	1.14
If I need another treatment, I prefer this hospital again.	2.06	1.19
I encountered problems in prenatal and postnatal periods due to the treatment I received, and I applied treatment methods.	2.14	1.31
I encountered physiological and sociological problems before and during treatment.	1.97	1.23
My physician and other healthcare personnel informed me of the risks of the treatments applied during my pregnancy period.	2.05	1.26
I always received support because of physiological and sociological problems I experienced. The support of the healthcare institution from which I received service was pretty much.	2.20	1.43
I was informed of the things I should do and things I should not do depending on the treatment process applied and I was supported in terms of training.	1.86	1.08
I was informed of the information regarding nutrition, diet and other food/beverage issues. I was always followed about this issue.	2.08	1.26
I was afraid of the risks regarding my baby during my pregnancy period.	2.03	1.21
I was supported by the institution I received healthcare service from, and was informed by the physicians regarding my adaptability to the environment, resistance to my disease, application and all the rules I should abide by sociologically and physiologically.	2.23	1.31
I was supported and informed by my physicians regarding my weight, physical activity, social life, sports and all other socio-cultural aspects.	2.04	1.16
I received all kinds of support from my healthcare institution and physicians regarding living with this disease and dealing with this disease.	2.09	1.25
I possess information about what I should do and should not do. Because, I got all benefits with the help of healthcare service and of the support I received.	2.26	1.40

Table 4: Chi-square analysis results regarding demographic data and satisfaction statements

Variable	*Group*	*Chi-square*	*P*
I possess positive thoughts about hemodialysis unit and general quality of the hospital (patient care, medical technology, personnel).	Age	16,634	.410
If I need another treatment, I prefer this hospital again.		17,218	.372
I possess positive thoughts about hemodialysis unit and general quality of the hospital (patient care, medical technology, personnel).	Gender	1,339	.855
If I need another treatment, I prefer this hospital again.		3,149	.533
I possess positive thoughts about hemodialysis unit and general quality of the hospital (patient care, medical technology, personnel).	Education	18,123	.579
If I need another treatment, I prefer this hospital again.		39,034	.007
I possess positive thoughts about hemodialysis unit and general quality of the hospital (patient care, medical technology, personnel).	Social security	19,558	.241
If I need another treatment, I prefer this hospital again.		27,037	.041
I possess positive thoughts about hemodialysis unit and general quality of the hospital (patient care, medical technology, personnel).	Residence area	16,336	.176
If I need another treatment, I prefer this hospital again.		7,585	.817
I possess positive thoughts about hemodialysis unit and general quality of the hospital (patient care, medical technology, personnel).	Do you have a chronic disorder?	2,579	.631
If I need another treatment, I prefer this hospital again.		5,367	.252
I possess positive thoughts about hemodialysis unit and general quality of the hospital (patient care, medical technology, personnel).	Income	28,128	.106
If I need another treatment, I prefer this hospital again.		33,858	.027

Individuals whose income levels were low or medium stated that they would prefer the same hospital again. The most important factor on this preference is the removal of economic burden from the patient. Furthermore, patients receiving service from public health institutions before, thought that care, interest, service quality and some methods used in public health institutions do not create positive effect on the patients. In addition, it is observed that due to the fact that some patients are benefiting from private health insurance, this can be shown as an important factor in the preference of private health institutions.

In Tables 5-7, cross tables demonstrating the relationships between individuals' preferring the same hospital again and the variables regarding their income, educational status and social se-

Table 5: Cross table regarding educational level and preferring the hospital again

			If I need another treatment, I prefer this hospital again.					*Total*
			1	*2*	*3*	*4*	*5*	
Educational Level	*Illiterate*	Count	4	0	5	4	0	13
		%	4.1	0.0	13.5	18.2	0.0	5.9
	Literate	Count	25	12	10	1	1	49
		%	25.5	21.8	27.0	4.5	10.0	22.1
	Primary	Count	22	14	8	6	1	51
		%	22.4	25.5	21.6	27.3	10.0	23.0
	High	Count	16	15	4	1	1	37
		%	16.3	27.3	10.8	4.5	10.0	16.7
	Under-graduate	Count	27	14	9	9	5	64
		%	27.6	25.5	24.3	40.9	50.0	28.8
	Post-graduate	Count	4	0	1	1	2	8
		%	4.1	0.0	2.7	4.5	20.0	3.6

curity are shown. According to cross table results, individuals whose educational level are undergraduate possess more positive opinions about preferring the hospital they received treatment when compared to other groups. Individuals whose income level is between 800-1000, 1751-2500 TL and whose social security is Baðkur-Emekli sandiði also tend to prefer the hospitals where they received treatment (Tables 5-7).

Average Comparison Tests

General satisfaction scores were formed by using scale questions taking place within the questionnaire in order to determine general evaluation regarding attitudes of the hospital personnel and attitudes of the individuals attending the research regarding physical condition of hemodialysis unit. 31 questions in total were selected in total that measure physical and personnel satisfaction within the scale and averages of the answers were taken. t-test and variance analysis techniques were used in order to measure whether there was a difference according to general satisfaction levels for three characteristics of the attendees. These characteristics are as follows:

- Do the medicines you use have different benefits for your disease?
- Did any risks occur in your prenatal and postnatal period and did you act with your physician correspondingly?
- For how many years have you been fighting with this disease?

Hypotheses were formed as follows for average comparison:

Ho: There is no significant statistical difference among groups according to their general satisfaction levels.

Hi: There is a significant statistical difference between at least, two groups according to their general satisfaction levels.

In Tables 8-9, descriptive statistics and t-test results are shown according to general satisfaction level among the benefit situation from the

Table 6: Cross table regarding income level and preferring the hospital again

			If I need another treatment, I prefer this hospital again					*Total*
			1	*2*	*3*	*4*	*5*	
Income	*Income*	Count	16	11	7	4	0	38
	None	%	16.3	20.0	18.9	18.2	0.0	17.1
	800-1000	Count	34	17	6	8	5	70
		%	34.7	30.9	16.2	36.4	50.0	31.5
	1001-1250	Count	16	3	9	0	3	31
		%	16.3	5.5	24.3	0.0	30.0	14.0
	1251-1750	Count	11	7	4	1	1	24
		%	11.2	12.7	10.8	4.5	10.0	10.8
	1751-2500	Count	19	11	4	7	1	42
		%	19.4	20.0	10.8	31.8	10.0	18.9
	2501-3500	Count	2	6	7	2	0	17
		%	2.0	10.9	18.9	9.1	0.0	7.7

Table 7: Cross table regarding social security and preferring the hospital again

			If I need another treatment, I prefer this hospital again					*Total*
			1	*2*	*3*	*4*	*5*	
Your Social Security	*SSK*	Count	38	24	11	2	1	76
		%	38.8	43.6	29.7	9.1	10.0	34.2
	Bagkur	Count	30	17	14	9	5	75
		%	30.6	30.9	37.8	40.9	50.0	33.8
	Emekli	Count	24	5	9	9	3	50
	sandigi	%	24.5	9.1	24.3	40.9	30.0	22.5
	Yesil kart	Count	5	8	1	2	1	17
		%	5.1	14.5	2.7	9.1	10.0	7.7
	None	Count	1	1	2	0	0	4
		%	1.0	1.8	5.4	0.0	0.0	1.8

Table 8: Descriptive statistics regarding general satisfaction levels according to use of medicine

Do the medicines you use have different benefits for your disease?	*Mean*	*Std. deviation*
Yes	2.2092	.69400
No	1.7010	.32540

used medicines. According to t-test result, there is a significant statistical difference among groups ($p<0.05$). Individuals who benefitted from the use of medicine possess significantly higher general satisfaction levels. However, satisfaction averages are so low for both groups (Tables 8 and 9).

The satisfaction levels of individuals benefiting from medicine use according to general satisfaction levels between the benefit acquired from medicine use and duration of disease are higher when compared to individuals who think the medicines used did not provide benefit.

In Tables 10-11, descriptive statistics and t-test results are shown according to general satisfaction level among the duration of disease. According to variance analysis result (ANOVA), there is no significant statistical relationship among the groups ($p>0.05$). According to this result, it was discovered that there was no difference in satisfaction levels according to duration of disease. Satisfaction averages are so low according to groups (Tables 10 and 11). There was no difference in the duration of disease according to satisfaction levels. Here, the striking result is that general satisfaction levels of all groups were extremely low. This result explicitly shows dissatisfaction of the attendees.

Table 10: Descriptive statistics regarding general satisfaction levels according to duration of disease

How many years have you been fighting with this disease?	*Mean*	*Std. deviation*
1 year	1.8536	.49828
2 years	2.0870	.63522
3-5 years	2.2329	.67988
6-10 years	2.0295	.71545
11-15 years	2.1824	.77258
16-25 years	2.0215	.36174

DISCUSSION

The satisfaction of patients and their relatives can only be realized with the quality of service provided (Korkmaz et al. 2015c). Service quality should be in the forefront in health sector; because; quality, type and content of health services have important effects on social life of the patient (Korkmaz et al. 2015d). Service mentality may differ from one institution to another and it also differs by current problem of the patient and type of the healthcare service he/she receives (Kiliç et al. 2015).

Developments in health sector have formed a basis for discussing issues such as service quality, measuring quality, increasing efficiency and customer satisfaction and had enabled it to take place within today's competitive environment (Odabasi 2006). The main purpose in patients' satisfaction is to form patients' loyalty. In order to reach this purpose, patients should be followed from taking the first step to the health institution, in the health institution and after leaving the institution at his/her home and the relationship should be maintained after making a

Table 9: t-test results regarding general satisfaction levels according to use of medicine

	Levene's test for Equality of Variances		*t-test for Equality of Means*		
	F	*Sig.*	*t*	*Df*	*P*
Equal variances assumed	32.553	.000	4.354	220	.000
Equal variances not assumed			6.875	112.995	.000

Table 11: Variance analysis results regarding general satisfaction levels according to duration of disease

	Sum of squares	*df*	*Mean square*	*F*	*Sig.*
Between groups	2.212	5	.442	.973	.435
Within groups	98.186	216	.455		
Total	100.398	221			

full recovery within the framework of general communication of the institution (Agirbas 2002).

It could be said that if the customers perceive the presented healthcare services as qualified and they are satisfied, the possibility of preferring the same health institution again will increase. Increase in customer loyalty and preference of the health institution are some of the important factors in assessing performance of the hospital.

Hospital loyalty is the tendency of a patient to maintain her/his relationship with a hospital, and also to be willing to recommend the services of that hospital to other potential patients (Engiz 2007) as a result of the fact that the patient appreciated the services of the hospital, she/he is bound to prefer the same hospital again when such services are needed, and to speak positively of the hospital, personalizing the hospital as "my hospital". It is possible to think that hospital loyalty is shaped by three positions, namely trust in the received medical services, costs of the services and gratification maintained (Erdem et al. 2008).

Age, gender, educational status, social security, income, type of disease and duration of stay in hospital can be specified as the characteristics of patient among the factors affecting patient satisfaction (Özer and Çakil 2007). Patient satisfaction is an important factor for the patient to prefer the hospital. In this study, there are differences in preferring the hospital again according to education, income and social security of the attendees. Attendees possessing educational level of undergraduate and postgraduate have higher rates in preferring the same hospital. Most of the attendees receiving 800-1000TL income specified that they would prefer the same hospital. Attendees whose social security was Bagkur and Emekli sandigi had higher rates in preferring the same hospital.

Nephrological social service practice (Zengin 2016) which is a social service area addressing the patient from an integrated perspective within the teamwork and including the implementations and interventions at a professional, planned, micro, mezzo and macro level directed to the solution of psychosocial and economic problems encountered by the patients who receive health service from the dialysis unit of medical institutions in reaching to those health services offered or during treatment can be considered to be an effective element in patient satisfaction. Medical services offered in dialysis units are supported with such psychosocial services as psychosocial assessment and counselling, briefing and transfer, facilitating the access to social resources, care planning and cooperation in team, advocacy on behalf of patient and patient and family training. Therefore, a significant perception can be created concerning patients' satisfaction in offering an integrated treatment and yielding maximum benefit to patients from treatment process (Zengin 2016).

CONCLUSION

The satisfaction levels of patients receiving treatment in hemodialysis unit were measured in this study, and the opinion of 222 patients in total receiving treatment in hemodialysis unit were assessed. According to the analysis results, it was discovered that the satisfaction levels of the patients were alright in general. Dissatisfaction was at the top level especially on issues of getting informed and regarding training. It was observed that patients were mainly satisfied with the issue of toilet and bathroom cleanness and they were not satisfied with other issues. On the other hand, when it was assessed in terms of personal characteristics even this situation varied. Because of the fact that a great majority of the attendees are not fully informed of their diseases, their educational level was medium and lower, they did not know how to act regarding their disease, and they were affected by environmental factors and also by some other patients, this posed an important factor in the preference of health institutions. Similarly, individuals who possessed Bagkur and Emekli sandigi and who were at the level of undergraduate in terms of education tend to prefer the same hospital again. The most important reasons for patients' dissatisfaction were, patients' not being able to receive quick service, insufficient health personnel, physicians' allotting less than enough time for patients because of patient density, physical conditions of the health institution's being insufficient in meeting needs of the patients. Moreover, it was discovered that another important factor generating patients' dissatisfaction is the absence or inadequacy of physical conditions that would meet personal needs and accommodation of the patients' relatives depending on long hospital stay of some patients. Again, because of the wage policy variable of 78 percent of the attendees according to

service type and content of the private health institution, high costs and most importantly variance from one institution to the other create negative effect and dissatisfaction among patients.

According to the analysis results, satisfaction levels of the patients receiving treatment in hemodialysis unit are not well. In order to eliminate relevant dissatisfaction, the following points can be suggested;

- Briefing patients
- Staff's caring for the patients the more
- Ensuring nephrological social service practice
- Suggesting the elements that will result in the increase of physical quality and service quality in hemodialysis units and increase in patients' satisfaction

NOTE

This paper is the extended version of the paper titled "Analysis on Satisfaction Levels of the Patients Receiving Treatment in Hemodialysis Unit: A Scale Development Study" presented as a verbal notice in the 1st International Congress on Woman and Child Health and Education held in Kocaeli Wellborn Luxury Hotel on 14-15 April.

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