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Araştırma Makalesi/Research Article

A STUDY ON THE HEALTHCARE SERVICE QUALITY EXPECTATION AND PERCEPTION OF PATIENTS[1]

HASTALARIN SAĞLIK HİZMETİ KALİTESİ BEKLENTİLERİ VE ALGILAMALARI ÜZERİNE BİR ARAŞTIRMA

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Abstract

This study was aimed to measure the quality of health services which expected and perceived by adult patients who were referred to the health institution and to provide feedback to the institution. In the study, the Servqual scale developed by Parasuraman, Zeithaml and Berry in 1985 was used. The study was carried out on adult patients referred to a university hospital. The sample size of the study was determined as 552 persons. 565 patients participated in the study. Significance level was taken as $p < 0.05$. Participants of the study were examined for their participation in the questionnaires and it was found that the perceptions of the quality of the health services of the patients differ from the Servqual scale sub-dimensions in terms of tangibles, responsiveness, assurance and empathy. It was also found that the expectations did not differ according to sub-dimensions. It is proposed that the institution should consider customer expectations for the quality perception in healthcare services and make the necessary changes as much as possible in the areas where the expectations are not provided.

Keywords: Quality, Service Quality, Health Care Quality, SERVQUAL Scale, Quality Expectation, Quality Perception

Öz

Sağlık kurumuna başvuran erişkin hastaların, bekledikleri ve algıladıkları sağlık hizmet kalitesini ölçmek ve kuruma geri bildirim sağlamak amaçlanmıştır. Çalışmada Parasuraman, Zeithaml ve Berry tarafından 1985 yılında geliştirilen Servqual ölçeği kullanılmıştır. Çalışmanın örneklem hesaplaması yapılmış, buna göre gerekli örneklem büyüklüğü 552 kişi olarak belirlenmiştir. Çalışmaya 565 hasta katılmıştır. Anlamlılık düzeyi $p<0,05$ olarak alınmıştır. Çalışmaya katılanların anketlere katılımları incelenmiş, cinsiyet değişkeni açısından hastaların sağlık hizmetinin kalitesine ilişkin algıları servqual ölçeği alt boyutlarından fiziksel özellikler, heveslilik, güven ve empati boyutunda farklılık gösterdiği bulunmuştur. Beklentilerinin alt boyutlara göre farklılık göstermediği bulunmuştur. Kurumun sağlık hizmeti sunumunda kaliteli algılanabilmesi için müşteri beklentilerini dikkate alması, beklentilerin sağlanmadığı alanlarda mümkün olduğunca gerekli değişiklikleri yapması önerilmektedir.

Anahtar Kelimeler: Kalite, Hizmet Kalitesi, Sağlık Hizmet Kalitesi, SERVQUAL Ölçeği, Beklenen Kalite, Algılanan Kalite

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GENİŞLETİLMİŞ ÖZET

Çalışmanın Amacı: Yüksek kaliteli hizmet sunulabilmesi için farklı ihtiyaç ve gereksinimleri olan müşterilerin her birinin beklentilerinin anlaşılması ve yorumlanması gerekmektedir. Hizmet kalitesinin belirleyicilerinin bilinmesi hastanelerin müşterilerin ihtiyaçlarını bilmesini ve ardından hizmetleri ihtiyaçlara uygun olarak tasarlayabilmesini sağlamaktadır. Bu çalışma ile bir üniversite hastanesinde sunulan hizmet ile ilgili hastaların algılamalarının ve beklentilerinin düzeyleri belirlenmiş ve kurumun kalitesi ortaya konulmaya çalışılmıştır. Sağlık kurumuna başvuran erişkin hastaların, bekledikleri ve algıladıkları sağlık hizmet kalitesini ölçmek ve kuruma geri bildirim sağlamak amaçlanmıştır.

Materyal ve Metot: Çalışmada Parasuraman, Zeithaml ve Berry tarafından 1985 yılında geliştirilen Servqual ölçeği kullanılmıştır. Çalışma, bir üniversite hastanesine başvuran erişkin hastalara 15.04.2017- 15.08.2017 tarihleri arasında uygulanmıştır. Hastalara uygulanan ölçek literatür taranarak ve uzman görüşlerinden faydalanarak hazırlanmıştır. Çalışmanın yapıldığı kuruma başvuran erişkin hasta sayısı, ayda ortalama 6.792'dir. Çalışmanın örneklem hesaplaması yapılmış, buna göre gerekli örneklem büyüklüğü 552 kişi olarak belirlenmiştir. "Yeni Kurulmakta Olan Bir Üniversite Hastanesinde Algılanan Hizmet Kalitesi Ve Ölçümü: Balikesir İli Örneği" başlıklı araştırma sonuçları kullanılarak Güç Analizi yöntemiyle örneklem büyüklüğü hesaplanmıştır. Çalışmanın örneklemini, hedef popülasyondan rastgele seçilen ve araştırmaya gönüllü olarak katılan 565 hasta oluşturmaktadır. Çalışmanın geçerliliği ve güvenirliği yapılmıştır. Babakus ve Mangold tarafından 1992 yılında yapılan çalışmada Servqual ölçeğinin çeşitli hizmet sektörlerinde geçerliliğinin ortaya konulduğu, fakat sağlık hizmetlerine uygunluğunun değerlendirilmediği üzerinde durulmuştur. Hastaların hizmet kalitesine yönelik beklentilerini ve algılamalarını ölçmek üzere, Servqual ölçeğinin sağlık hizmeti sunan kuruluşlar açısından uygunluğu değerlendirilmiş ve ölçeğin geçerlilik ve güvenilirlik çalışmaları yapılmıştır. Sağlık kuruluşlarında hizmet kalitesine yönelik değerlendirmelerde Servqual ölçeğinin, sağlık hizmetlerine uygun bir değerlendirme ölçeği olduğu vurgulanmıştır. Yararlanılan Servqual ölçeğinin içerik geçerliliği, sağlık hizmetlerinin kalitesinin değerlendirildiği daha önce gerçekleştirilen çalışmalarda kullanılmasından yola çıkılarak kabul görmüş olduğu varsayımına dayanmaktadır. Ölçeklerin güvenilirliği için Cronbach's Alpha değerleri elde edilmiştir (beklenti 0,959, algılama 0,949). Anket ile elde edilen veriler IBM SPSS V. 23 programı ile analiz edilmiştir. Nicel veriler ortanca (min-mak) şeklinde sunulurken nitel veriler de frekans (yüzde) şeklinde sunulmuştur. Anlamlılık düzeyi $p<0,05$ olarak alınmıştır.

Bulgular: Çalışmaya katılanların anketlere katılımları incelenmiş, cinsiyet değişkeni açısından hastaların sağlık hizmetinin kalitesine ilişkin algıları servqual ölçeği alt boyutlarından fiziksel özellikler, heveslilik, güven ve empati boyutunda farklılık gösterdiği bulunmuştur. Beklentilerinin alt boyutlara göre farklılık göstermediği bulunmuştur. Yaş değişkeni açısından hastaların sağlık hizmetinin kalitesine ilişkin beklentileri ve algıları servqual ölçeği alt boyutlarından fiziksel özellikler, güvenilirlik, heveslilik, güven ve empati boyutunda ortanca değerler bakımından istatistiksel olarak anlamlı farklılık göstermektedir. Eğitim durumu değişkeni açısından hastaların beklentileri servqual alt boyutlarından fiziksel özellikler, güven ve empati boyutunda ortanca değerler bakımından farklılık göstermektedir. Eğitim durumu değişkeni açısından hastaların algıları ise fiziksel özellikler, güvenilirlik, heveslilik, güven ve empati boyutlarında ortanca değerler bakımından farklılık göstermektedir. Ayrıca eşit ağırlıklı servqual değerlerinde de eğitim durumu açısından fark bulunmuştur. Aylık gelir değişkeni açısından hastaların beklentileri Servqual alt boyutlarında farklılık göstermemektedir. Hastaların algıları ise güvenilirlik, heveslilik, güven ve empati alt boyutunda ortanca değerler bakımından farklılık göstermektedir.

Sonuç: Günümüzde yalnızca sunulan hizmet değil, hizmetin sunulduğu alan, görsellik ve konforu da oldukça önemlidir. Hastanenin çalışanlar ve diğer koşullar düşünüldüğünde güvenilir olması beklenmektedir. Hastanın çalışana güvenmesi ve kendisini güvende hissetmesi önemlidir. Kimi zaman hasta sağlık çalışanın hastalığı ve içinde bulunduğu durum ile ilgili empati kurmasını beklemektedir. Sunulan hizmetin iyi olduğunun düşünülmesi kurumun tercih edilme durumu üzerinde etkilidir. Kaliteli hizmet sunumunun sağlanması, beklenen koşulların yerine getirilmesi ve mevcut işlemlerin daha kaliteli hale getirilmesiyle kurumun tercih edilme oranlarında artışlar olacağı düşünülmektedir. Kurumun sağlık hizmeti sunumunda kaliteli algılanabilmesi için müşteri beklentilerini dikkate alması, beklentilerin sağlanmadığı alanlarda mümkün olduğunca gerekli değişiklikleri yapması önerilmektedir.

INTRODUCTION

In this modern age, quality ensures a meaningful and unique start to life. In our day, quality management systems which are lively, dynamic and based on continuous improvement have become of the utmost importance. Hospitals are matrix-structured organizations that provide many services in a coordinated manner under varying environmental conditions. While providing such numerous services in different fields, hospitals are also obliged to have a certain quality and be able to fulfill the expectations of patients. While providing the desired healthcare services, modern healthcare institutions also consider the relationship between the patient and the physician, plan for better service provision and attach an importance to the continuous improvement of quality, keeping their dynamism 24/7 (Marşap, 2014). In our time and day, the pursuit of quality is evident not only in the field of healthcare services, but also in all fields of life. Therefore, in order to achieve high quality standard throughout every moment of life, people and organizations need to develop their potential to the highest degree.

Quality is when a product or service precisely meets the needs, and is also measured as the degree of suitability to such needs (Efil, 2010; Koçel, 2015). Oakland (2003) and Juran (1998) have described quality as the fulfillment of the consumer's needs. In the broadest sense, quality is providing the expected and desired conditions in the best manner possible and in timely fashion. Under today's conditions, it is necessary that an extensive quality management policy is followed. This extensive quality management policy has become an obligation rather than a request.

With each passing day, healthcare services gain a higher ranking in the world agenda and ensuring the continuity of quality is sought through standards set in this regard (Özen et al., 2011). Customers evaluate service quality of hospitals by looking at its physical facilities, the interaction with patient consultants or the informational and technical aspects of service provision (Kansra and Jha, 2016).

Quality definitions in the tertiary sector are focused on to what extent the needs of customers and the expectations of service providers are met (Butt and de Run, 2010). Quality of service is considered as a critical determinant of competition. Laying emphasis on the quality of service can assist an institution in distinguishing itself from other institutions and gain a permanent upper hand in competition (Ghobadian et al., 1994) In the healthcare industry where competition remains in the foreground, providing services that fulfill consumers' needs and prioritizing customer satisfaction are among the essential strategies in terms of customer retention (Cronin and Taylor, 1992; Parasuraman, Zeithaml and Berry, 1991).

Measurement of quality is of prime importance in the systematic development of a healthcare system. Parasuraman et al. (1985) have attempted to define quality of service comparing customer expectations and perceptions. It is deemed that the Servqual approach differ from more traditional methodologies based on perception, which prioritizes customer satisfaction. There is a correlation between the quality of service and customer satisfaction. It is considered that the Servqual scale is among the reliable scales utilized in the tertiary sector in order to measure the quality of service. According to Wang et al. (2004), the quality of service equals to the difference between the service expected by the customer and the service perceived by the customer.

The Servqual model can assist various service institutions and their customers in their evaluation of service quality expectations and perceptions and is able to identify the fields which require attention in order to increase the quality of service (Yin et al. 2016). Perceived quality is different than the objective quality which defines the preset and measurable advantage of a product or service. Perceived quality is affected by the internal and external features of a product and is conceived in the mind of the consumer (Işık, 2016). Expected quality refers to the customers' expectations related to the service. The components and sub-components of this model were developed for the concept of general service. Therefore, it is recommended that such model is customized for each sector and field (Ceylan and Özçelik, 2016).

Today, institutions providing healthcare services face new and rapidly changing requests, ever-differing needs and various problems. Such problems faced by healthcare institutions are caused by the rapid increase in the healthcare costs on the one hand, and the dissatisfaction of the society with the services

provided and the inability to develop such services to the desired levels on the other. Therefore, in healthcare services, a momentum needs to be brought to quality-focused studies within the sense of contemporary organizational culture which is able to fulfill the complex expectations and requirements of consumers and which is open for continuous improvement (Marşap, 2014). Essentially, quality is expected to provide customer satisfaction. The equivalent of quality in the healthcare sector is the happiness of patients. People are at the focal point of healthcare services; thus, the satisfaction of both the healthcare personnel and the people benefiting from healthcare services are important in provision of such services.

1. MATERIALS AND METHODS

The objective of this study is to measure the expectations and perceptions of adult patients applying to a healthcare institution with regard to the quality of the healthcare services provided by that institution.

The target population of this study is comprised of adult patients who have applied to a university hospital (n=6.792). The sample size of the study was calculated and the required sample size was determined as 552 persons. Taking the study titled "Yeni Kurulmakta Olan Bir Üniversite Hastanesinde Algılanan Hizmet Kalitesi ve Ölçümü: Balıkesir İli Örneği" [Perceived Service Quality and its Measurement in a Newly-Established University Hospital: an Example from Balıkesir Province], it was determined using the Power Analysis and Sample Size Software (PASS) Demo that comprise 552 patients (n=6.792) in the sample with 95% confidence, 99.9% power and 0.543 effect size for the Tangibles sub-dimension; 95% confidence, 99.9% power and 0.411 effect size for the Reliability sub-dimension; 95% confidence, 99.9% power and 0.523 effect size for the Responsiveness sub-dimension; 95% confidence, 99.9% power and 0.331 effect size for the Assurance sub-dimension and 95% confidence, 99.9% power and 0.334 effect size for the Empathy sub-dimension would be sufficient. The sample of the study consists of randomly selected 565 patients from the target population who voluntary participated on to the survey. Therefore, the results are valid only in this context.

The survey method was utilized in carrying out the study. While formulating the survey for this study, the Servqual scale developed by Parasuraman, Zeithaml and Berry in 1985 was drawn from. There are five sub-dimensions to the scale as tangibles, reliability, assurance, responsiveness and empathy. Tangibles dimension refers to physical facilities, equipment and materials used in service provision, appearance of personnel, the physical manifestation of services and other customers within the service medium. Reliability dimension refers to the ability to provide the promised services in a dependable and accurate manner. Responsiveness dimension refers to the willingness to help customers and provide prompt service. Assurance dimension refers to the knowledge and the ability to inspire trust and confidence. Empathy dimension refers to the personal care and importance attached by the institution to its patients (Şen, 2010). The surveys were conducted personally by the researcher between 15.04.2017-15.08.2017 on the adult patients who have applied to a university hospital.

Data from the questionnaire were analyzed with the IBM SPSS V23 program. Significance level was determined as $p < 0.05$. Letters were selected (a, b, c) while studying the difference between the groups. For the groups which have the same letter for each of the sub-dimensions mentioned, the median values display no difference.

1.1. Hypotheses

The following hypotheses were propounded on the basis of the theoretical portion of this study.

A- The healthcare service quality expectations of patients applying to a healthcare institution display a significant variation according to:

a- Gender,

b- Age,

c- Level of education,

d- Monthly income.

B- The healthcare service quality perceptions of patients applying to a healthcare institution display a significant variation according to:

a- Gender,

b- Age,

c- Level of education,

d- Monthly income.

2. RESULTS

62.8% (n=335) of the participants were female, 37.2% (n=210) were male, 22.3% (n=126) were 30 years and younger, 24.1% (n=136) were between the ages of 30-39, 20.9% (n=118) were between the ages of 40-49 and 32.7% (n=185) were 50 years and older. 51.7% (n=292) of the participants had no income, 13.8% (n=78) had an income between TRY 500-1500, 14.0% (n=79) between TRY 1501-2000 and 20.5% (n=116) over TRY 2001. While 6.2% (n=35) of the patients who participated in the study were illiterate, 6.2% (n=35) were graduates of the associate degree, 18.4% (n=104) of the bachelor's degree and 1.4% (n=8) of the post-graduate degrees.

Table 1. Scores for patients' expectations, perceptions and overall Servqual scores

Servqual scores for patient expectations							
	Tangibles	Reliability	Responsiveness	Assurance	Empathy	Overall Expectation	n
Average	4.5420	4.7090	4.6801	4.7181	4.5504	4.6399	565
S. Deviation	0.65682	0.53462	0.55322	0.52979	0.66808	0.50984	565
Median	5.0000	5.0000	5.0000	5.0000	5.0000	4.8200	565
Min	1.00	1.00	1.00	1.00	1.00	1.00	565
Max	5.00	5.00	5.00	5.00	5.00	5.00	565
Servqual scores for patient perceptions							
	Tangibles	Reliability	Responsiveness	Assurance	Empathy	Overall Perception	n
Average	3.5420	4.1154	4.1500	4.1885	4.1041	4.0200	565
S. Deviation	0.99495	0.88654	0.87225	0.91486	0.93547	0.75246	565
Median	3.7500	4.2000	4.2500	4.5000	4.2000	4.1000	565
Min.	1.00	1.00	1.00	1.00	1.00	1.22	565
Max.	5.00	5.00	5.00	5.00	5.00	5.00	565
Overall patient Servqual scores							
	Tangibles	Reliability	Responsiveness	Assurance	Empathy	Overall	n
Average	-1.00	-0.59	-0.53	-0.53	-0.45	-0.62	565
S. Deviation	1.17	1.02	1.03	1.02	1.06	0.88	565
Median	-1.00	-0.40	-0.50	-0.25	-0.20	-0.60	565
Minimum	-4.00	-4.00	-4.00	-4.00	-4.00	-3.78	565
Maximum	3.00	2.80	3.50	3.00	4.00	2.23	565

The servqual score for expectations in the sub-dimensions of tangibles, reliability, responsiveness, assurance and empathy was found to be 5.00. The overall expectations servqual score is 4.82. The perceptions servqual score for tangibles sub-dimension was found to be 3.75; for reliability 4.20; for responsiveness 4.25; for assurance 4.50 and for empathy 4.20. The overall perceptions servqual score is 4.10. The overall servqual score for tangibles sub-dimension was found to be -1.00; for reliability -0.40; for responsiveness -0.50; for assurance -0.25 and for empathy -0.20. The overall servqual score is -0.60.

Table 2. Servqual scores by gender regarding healthcare service quality expectations/perceptions of patients applying to a healthcare institution

Sub-Dimensions		Female Median (min-max)	Male Median (min-max)	Test statistics MWU	p*
Tangibles	Exp.	5 (1.8 - 5)	5 (1 - 5)	36154.0	0.520
	Perc.	3.5 (1 - 5)	4 (1 - 5)	30055.0	**<0.001**
	Serv.	-1 (-4 - 3)	-0.8 (-4 - 2)	30944.0	**0.001**
Reliability	Exp.	5 (2 - 5)	5 (1 - 5)	37079.0	0.904
	Perc.	4.2 (1.4 - 5)	4.2 (1 - 5)	35460.5	0.326
	Serv.	-0.4 (-3.6 - 2.8)	-0.6 (-4 - 2)	36629.0	0.729
Responsiveness	Exp.	5 (1.8 - 5)	5 (1 - 5)	35749.0	0.361
	Perc.	4.5 (1 - 5)	4.3 (1.5 - 5)	33072.0	**0.022**
	Serv.	-0.3 (-4 - 3.3)	-0.5 (-3.5 - 3.5)	34507.5	0.136
Assurance	Exp.	5 (2 - 5)	5 (1 - 5)	36949.5	0.839
	Perc.	4.5 (1 - 5)	4.3 (1 - 5)	33459.0	**0.036**
	Serv.	-0.3 (-4 - 2)	-0.5 (-4 - 3)	34210.5	0.097
Empathy	Exp.	5 (2 - 5)	4.8 (1 - 5)	34392.5	0.093
	Perc.	4.6 (1 - 5)	4 (1 - 5)	31501.5	**0.002**
	Serv.	0 (-4 - 2.4)	-0.4 (-4 - 4)	33991.5	0.077
Equal Weighted Serv.		-0.6 (-3.8 - 2.2)	-0.6 (-3.3 - 2.2)	36719.0	0.767
n		355	210		

*Mann-Whitney U *p<0.05 Exp: Expectations, Perc: Perceptions, Serv: Servqual

Median values for perceived tangibles display a difference according to the gender (p<0.001). Servqual scores for tangibles display a difference according to the gender (p<0.001). Median values for perceived responsiveness also display a difference according to the gender (p<0.022). Median values for perceived assurance display a difference according to the gender (p<0.036). The median value for perceived empathy was found to be 4.6 for females and 4 for males, which points out to a statistically significant difference (p=0.002).

Table 3. Servqual scores by age regarding healthcare service quality expectations/perceptions of patients applying to a healthcare institution

Sub-Dimensions		18-29 Median (min-max)	30-39 Median (min-max)	40-49 Median (min-max)	50 and older Median (min-max)	Test statistics	*p
Tangibles	Exp.	4.5 (1.8 - 5)a	5 (2.5 - 5)ab	5 (1.8 - 5)b	5 (1 - 5)ab	χ^2=10.6	**0.014**
	Perc.	3.5 (1 - 5)a	3.5 (1 - 5)a	3.8 (1.5 - 5)a	4 (1 - 5)b	χ^2=22.7	**<0.001**
	Serv.	-1 (-4 - 3)a	-1 (-4 - 1.8)a	-1 (-3.5 - 1.8)a	-0.8 (-4 - 2.5)b	χ^2=15.1	**0.002**
Reliability	Exp.	5 (1.4 - 5)a	5 (3.8 - 5)ab	5 (1.6 - 5)b	5 (1 - 5)ab	χ^2=12.8	**0.005**
	Perc.	4 (1.4 - 5)a	4.2 (1.4 - 5)ab	4.2 (2 - 5)ab	4.4 (1 - 5)b	χ^2=9.2	**0.027**
	Serv.	-0.8 (-3.6 - 1)	-0.4 (-3.6 - 1.2)	-0.6 (-3 - 2)	-0.2 (-4 - 2.8)	χ^2=6.1	0.109
Responsiveness	Exp.	4.8 (1.8 - 5)a	5 (3.8 - 5)b	5 (2 - 5)b	5 (1 - 5)b	χ^2=28.0	**<0.001**
	Perc.	4 (1.8 - 5)a	4.4 (1.3 - 5)ab	4.1 (1 - 5)ab	4.5 (1.5 - 5)b	χ^2=9.4	**0.025**
	Serv.	-0.5 (-3 - 1.3)	-0.3 (-3.8 - 1)	-0.5 (-4 - 2)	-0.3 (-3.5 - 3.5)	χ^2=4.4	0.221
Assurance	Exp.	4.8 (1.5 - 5)a	5 (3.8 - 5)b	5 (2 - 5)b	5 (1 - 5)b	χ^2=26.3	**<0.001**
	Perc.	4 (1 - 5)a	4.5 (1 - 5)ab	4.3 (1.8 - 5)ab	4.8 (1.3 - 5)b	χ^2=16.4	**0.001**
	Serv.	-0.5 (-4 - 1)ab	-0.3 (-4 - 1)a	-0.5 (-3.3 - 2)a	0 (-3.3 - 3)b	χ^2=12.9	**0.005**
Empathy	Exp.	4.4 (2.2 - 5)a	5 (2.2 - 5)b	5 (2 - 5)b	5 (1 - 5)b	χ^2=26.3	**<0.001**
	Perc.	3.9 (1 - 5)a	4.2 (1 - 5)ab	4 (1 - 5)a	4.8 (1.6 - 5)b	χ^2=24.1	**<0.001**
	Serv.	-0.4 (-4 - 1.6)ab	-0.2 (-4 - 2.2)ab	-0.4 (-4 - 2)a	0 (-3.2 - 4)b	χ^2=11.2	**0.011**
Equal Weighted Serv.		-0.6 (-3.3 - 1)ab	-0.7 (-3.8 - 1)a	-0.7 (-2.9 - 1.9)a	-0.4 (-3 - 2.2)b	χ^2=14.7	**0.002**
n		126	136	118	185		

χ^2:Kruskal-Wallis test statistics, a-b:No difference between groups with the same letter. *p<0.05,
Exp:Expectations, Perc: Perceptions, Serv: Servqual

According to the ages of the participants, a difference was found in the tangibles sub-dimension between the median values of expectations (p=0.014), perceptions (p<0.001) and servqual (p=0.002); in the reliability sub-dimension between the median values of expectations (p=0.005) and perceptions (p=0.027); in the responsiveness sub-dimension between the median values of expectations (p<0.001) and perceptions (p=0.025); in the assurance sub-dimension (p<0.001) between the median values of perceptions (p=0.001) and servqual (p=0.005) and in the empathy sub-dimension between the median values of expectations (p<0.001), perceptions (p<0,001) and servqual (p=0.011). The equal weighted servqual score was also found to be statistically significant.

Table 4. Servqual sub-dimension scores by level of education regarding healthcare service quality expectations and perceptions of patients

Tangibles				
Level of Education	Expectations	Perceptions	Servqual	n
	Median (min-max)	Median (min-max)	Median (min-max)	
Illiterate	4.8 (2.5 - 5)ab	4.5 (1 - 5)a	0 (-4 - 2.5)a	35
Primary Education	5 (1 - 5)ab	3.8 (1 - 5)b	-1 (-4 - 2)b	195
Secondary Education	4.3 (2 - 5)a	3.6 (2 - 5)b	-1 (-3 - 3)b	68
Tertiary Education	4.8 (1.8 - 5)ab	3.5 (1 - 5)b	-1.3 (-4 - 1.8)b	120
Associate	4.8 (2.8 - 5)ab	3 (1.8 - 5)b	-1.3 (-3.3 - 0.8)b	35
Bachelor's	5 (2.3 - 5)b	3.8 (1 - 5)b	-1 (-4 - 1.8)b	104
Post-Graduate	5 (4.5 - 5)ab	4.3 (2 - 5)ab	-0.8 (-3 - 0)ab	8
Test statistics	χ^2=21.6	χ^2=37.9	χ^2=28.3	
p	0.001	<0.001	<0.001	
Reliability				
Level of Education	Expectations	Perceptions	Servqual	n
	Median (min-max)	Median (min-max)	Median (min-max)	
Illiterate	5 (2 - 5)	5 (2 - 5)a	0 (-3 - 2.8)a	35
Primary Education	5 (1 - 5)	4.6 (2 - 5)a	0 (-3 - 2.2)a	195
Secondary Education	4.8 (3.8 - 5)	4.2 (1.4 - 5)a	-0.3 (-3.6 - 1.2)a	68
Tertiary Education	5 (1.4 - 5)	4.0 (1 - 5)bc	-0.8 (-4 - 1)bc	120
Associate	5 (4 - 5)	3.4 (1.4 - 5)bc	-1.4 (-3.4 - 1)bc	35
Bachelor's	5 (4 - 5)	4.0 (1.4 - 5)c	-0.8 (-3.6 - 1)c	104
Post-Graduate	5 (4.8 - 5)	4.8 (4 - 5)abc	-0.2 (-1 - 0.2)abc	8
Test statistics	χ^2=11.8	χ^2=59.7	χ^2=54.3	
p	0.066	<0.001	<0.001	
Responsiveness				
Level of Education	Expectations	Perceptions	Servqual	n
	Median (min-max)	Median (min-max)	Median (min-max)	
Illiterate	5 (1.8 - 5)	5 (2 - 5)b	0 (-3 - 3.3)a	35
Primary Education	5 (1 - 5)	4.8 (1.5 - 5)b	0 (-3.5 - 3.5)a	195
Secondary Education	4.9 (3.8 - 5)	4.5 (1.5 - 5)b	-0.3 (-3.5 - 1)a	68
Tertiary Education	5 (1.8 - 5)	4 (1 - 5)a	-0.5 (-4 - 1.3)ab	120
Associate	4.8 (3.3 - 5)	3.3 (1.8 - 5)a	-1.3 (-2.8 - 1)b	35
Bachelor's	5 (3.8 - 5)	4 (1.8 - 5)a	-0.8 (-3.3 - 1)b	104
Post-Graduate	4.5 (4.5 - 5)	4.8 (3 - 5)ab	-0.3 (-1.5 - 0.5)ab	8
Test statistics	χ^2=8.3	χ^2=62.2	χ^2=45.7	
p	0.218	<0.001	<0.001	
Assurance				
Level of Education	Expectations	Perceptions	Servqual	n
	Median (min-max)	Median (min-max)	Median (min-max)	
Illiterate	5 (2 - 5)ab	5 (2 - 5)ab	0 (-3 - 2)a	35
Primary Education	5 (1 - 5)b	5 (2 - 5)b	0 (-3 - 3)a	195
Secondary Education	4.8 (3.5 - 5)a	4.5 (1 - 5)a	-0.3 (-4 - 1.5)a	68

Table 4 (Cont.)

Level of Education	Expectations	Perceptions	Servqual	n
	Median (min-max)	Median (min-max)	Median (min-max)	
Tertiary Education	5 (1.5 - 5)ab	4 (1 - 5)ab	-0.5 (-4 - 1)ab	120
Associate	4.8 (2.8 - 5)ab	3.8 (1 - 5)ab	-1 (-4 - 1)b	35
Bachelor's	5 (3 - 5)ab	4.3 (1.8 - 5)ab	-0.5 (-3.3 - 1)b	104
Post-Graduate	5 (5 - 5)ab	5 (3.8 - 5)ab	0 (-1.3 - 0)ab	8
Test statistics	χ^2=21.7	χ^2=50.6	χ^2=38.1	
p	0.001	<0.001	<0.001	
Empathy				
Level of Education	Expectations	Perceptions	Servqual	n
	Median (min-max)	Median (min-max)	Median (min-max)	
Illiterate	5 (2 - 5)ab	5 (2 - 5)a	0 (-3 - 2.2)bc	35
Primary Education	5 (1 - 5)a	4.8 (1.8 - 5)ac	0 (-3.2 - 4)b	195
Secondary Education	4.6 (3.2 - 5)b	4.2 (1.2 - 5)a	-0.4 (-3.8 - 1.4)abc	68
Tertiary Education	4.8 (2.2 - 5)b	4 (1 - 5)a	-0.2 (-4 - 1.8)abc	120
Associate	4.2 (2.2 - 5)b	3.4 (1 - 5)b	-0.4 (-4 - 1)ac	35
Bachelor's	4.9 (2.6 - 5)ab	4 (1 - 5)b	-0.7 (-4 - 1.6)a	104
Post-Graduate	4.8 (4.4 - 5)ab	4.8 (4 - 5)bc	0 (-0.4 - 0)abc	8
Test statistics	χ^2=26.6	χ^2=58.3	χ^2=22.5	
p	<0.001	<0.001	<0.001	

χ^2: Kruskal-Wallis test statistics, a-b-c: No difference between groups with the same letter

A statistically significant difference was found between the median values for expectations per education level under the tangibles sub-dimension (p=0.001). The median value for graduates of secondary education was found to be lower than that of those with a bachelor's degree. In the perceived tangibles sub-dimension, the median value for those who are illiterate was found to be different than other levels of education except for those with a bachelor's degree. This difference is statistically significant. In the perceived tangibles dimension, it was found that the median value for the participants who are illiterate was higher than that of those from all other levels of education. The servqual median value displays a statistically significant difference with regard to the level of education (p<0.001). The servqual median value under the tangibles dimension for participants who are illiterate was found to be different than those from all levels of education except for those involved in post-graduate studies. It was also found out that illiterate patients have higher values than those from all other levels of education.

The perceived reliability median value displays a statistically significant difference with regard to the level of education (p<0.001). The median value for patients with a bachelor's degree was found to be lower than that of those who are illiterate and primary and secondary school graduates. A similar circumstance was evident for servqual median values (p<0.001). The perceived responsiveness median value displays a statistically significant difference with regard to the level of education (p<0.001).

A statistically significant difference was found between the expected and perceived assurance median values and the level of education (p values 0.001 and <0.001 respectively).

A statistically significant difference was found between the expected empathy median values and the level of education (p<0.001). A statistically significant difference was found between the perceived empathy median values and the level of education (p<0.001). A statistically significant difference was found between the servqual median values and the level of education with the median value for primary school graduates higher than that of those with associate and bachelor's degrees.

Table 5. Equal weighted servqual scores by level of education regarding healthcare service quality expectations/perceptions of patients applying to a healthcare institution

Level of Education	Equal Weighted Servqual Median (min-max)	n
Illiterate	-0.1 (-3 - 2.2)a	35
Primary Education	-0.4 (-2.8 - 2.2)c	195
Secondary Education	-0.4 (-3.6 - 1.4)ac	68
Tertiary Education	-0.7 (-3.8 - 1.2)c	120
Associate	-1.1 (-3.2 - 0.5)b	35
Bachelor's	-0.8 (-3.3 - 1)bc	104
Post-Graduate	-0.4 (-0.7 - 0)abc	8
Test statistics	χ^2=53.6	
p	<0.001	

χ^2: Kruskal-Wallis test statistics, a-c: No difference between groups with the same letter

A statistically significant difference was found between the equal weighted servqual median values and patients' level of education (p<0.001).

Table 6. Servqual scores by monthly income (in TRY) regarding healthcare service quality expectations/perceptions of patients applying to a healthcare institution

Sub-Dimensions		No Income Median (min-max)	TRY 500-1500 Median (min-max)	TRY 1501-2000 Median (min-max)	TRY 2001 and above Median (min-max)	Test statistics	p
Tangibles	Exp.	4.8 (1.8 - 5)	5 (1 - 5)	5 (1.8 - 5)	4.8 (2.8 - 5)	χ2=6.5	0.088
	Perc.	3.6 (1 - 5)	3.8 (1.5 - 5)	3.8 (1.5 - 5)	3.8 (1 - 5)	χ2=3.7	0.299
	Serv.	-1 (-4 - 3)	-1 (-3.5 - 2)	-0.8 (-3.5 - 1.8)	-1 (-4 - 1.5)	χ2=2.2	0.522
Reliability	Exp.	5 (2 - 5)	5 (1 - 5)	5 (1.4 - 5)	5 (2.8 - 5)	χ2=1.3	0.728
	Perc.	4.2 (1.4 - 5)a	4.4 (2 - 5)a	4.2 (1 - 5)a	4 (1.4 - 5)b	χ2=15.4	**0.002**
	Serv.	-0.4 (-3.6 - 2.8)a	-0.2 (-3 - 2)a	-0.4 (-4 - 1)ab	-0.8 (-3.4 - 1)b	χ2=13.2	**0.004**
Responsiveness	Exp.	5 (1.5 - 5)	5 (1 - 5)	5 (1.8 - 5)	5 (3 - 5)	χ2=1.4	0.697
	Perc.	4.5 (1 - 5)a	4.3 (1.8 - 5)ab	4.3 (2.3 - 5)ab	4 (1.3 - 5)b	χ2=14.4	**0.002**
	Serv.	-0.3 (-4 - 3.5)a	-0.5 (-3 - 3)ab	-0.5 (-2.8 - 1.3)ab	-0.8 (-3.8 - 1)b	χ2=8.3	**0.041**
Assurance	Exp.	5 (2 - 5)	5 (1 - 5)	5 (1.5 - 5)	5 (3 - 5)	χ2=3.0	0.392
	Perc.	4.5 (1 - 5)a	4.3 (2 - 5)ab	4.5 (1.3 - 5)a	4 (1 - 5)b	χ2=16.4	**0.001**
	Serv.	-0.3 (-4 - 2)a	-0.3 (-3 - 3)ab	0 (-3.3 - 1)a	-0.8 (-4 - 1)b	χ2=11.9	**0.008**
Empathy	Exp.	5 (1 - 5)	5 (1 - 5)	5 (2.2 - 5)	4.8 (2.2 - 5)	χ2=6.9	0.074
	Perc.	4.6 (1.2 - 5)a	4.2 (1.8 - 5)ab	4.2 (2.4 - 5)a	4 (1 - 5)b	χ2=19.5	**<0.001**
	Serv.	-0.2 (-3.8 - 4)ab	0 (-3.2 - 2.4)ab	0 (-2.6 - 1.4)a	-0.6 (-4 - 1.8)b	χ2=8.9	**0.030**
Equal Weighted Servqual		-0.5 (-3.6 - 2.2)a	-0.5 (-2.8 - 2.2)ab	-0.6 (-2.3 - 1)a	-0.7 (-3.8 - 1.1)b	χ^2=10.5	**0.015**
n		292	78	79	116		

χ^2: Kruskal-Wallis test statistics, a-b: No difference between groups with the same letter, Exp: Expectations, Perc: Perceptions, Serv: Servqual

A statistically significant difference was found between the perceived reliability sub-dimension median values per monthly income (p=0.002). The median value for patients with an income of TRY 2001 and above is lower than those of patients who have no income and have an income between TRY 500-1500 (p=0.004). Under the responsiveness sub-dimension, median values for both perceptions and servqual display a statistically significant difference in accordance with the monthly income. Under the assurance sub-dimension, median values for both perceptions and servqual display a statistically significant difference in accordance with the monthly income (p values are 0.001 and 0.008 respectively). Under the empathy sub-dimension, median values for both perceptions and servqual display a statistically significant difference in accordance with the monthly income (p:<0.001 and p:0.030). Equal weighted servqual median values display a statistically significant difference in accordance with the monthly income.

3. DISCUSSION

The aim of the study was to identify the expectations and perceptions of patients regarding healthcare service quality and to reveal the difference between them using the Servqual scale. 565 patients were reached for the study. Subtracting the expectations from the perceptions of 565 patients who participated in the study, the overall servqual score for tangibles sub-dimension was found to be -1.00; for reliability -0.40; for responsiveness -0.50; for assurance -0.25 and for empathy -0.20. The overall servqual score was found to be -0.60. As a result of another study conducted on healthcare personnel, Şen has found that expectations of the personnel are not met. The servqual score for tangibles sub-dimension was found to be -1.11; for reliability -0.97; for responsiveness -0.61; for assurance 0.88 and for empathy -0.47 (2010). In the study carried out by Gürsoy, it was revealed that expectations of patients were higher than their perceptions (2013). In the study conducted by Quiram in 1995, the overall servqual score was found to be -0.019. In the study conducted by Evans in 2008, it was found out that the perceptions of patients in the five sub-dimensions were lower than their expectations.

The equal weighted servqual score per gender regarding the expectations and perceptions of patients applying to a healthcare institution was found to be -0.6 for both men and women. It was found that the perceptions of the quality of the health services of the patients differ from the Servqual scale sub-dimensions in accordance with gender and in terms of tangibles, responsiveness, assurance and empathy. Patients' expectations display no difference in terms of the servqual scores for the sub-dimensions. Regarding the variable of gender, hypothesis Aa was rejected and hypothesis Ba was accepted. In the study carried out by Yalkın, it was found out that the importance attached to service quality did not differ according to gender (2010). In another study conducted by Arslan and Kelleci, it was revealed that the perceptions of women were higher than those of men (2011). In a study carried out on patients by Evans in 2008, no significant difference was found between the patients' expectations and perceptions per gender.

The equal weighted servqual score median value per age for the expectations and perceptions regarding the quality of healthcare of patients applying to a healthcare institution was found to be -0.6 for the age range of 18-29, -0.7 for 30-39, -0.7 for 40-49 and -0.4 for patients who are 50 years and older. It was found that the expectations and perceptions of the quality of the health services of the patients display statistically significant difference from the Servqual scale sub-dimensions in accordance with age and in terms of the median values for tangibles, reliability, responsiveness, assurance and empathy. Regarding the variable of age, hypotheses Ab and Bb were accepted. In the study carried out by Şen on the personnel, when the service quality expectations of the personnel were evaluated by age groups it was found out that in the dimensions of "tangibles", "reliability" and "empathy" the level of expectation decreases with increasing age (2010). In another study conducted by Sevimli on the patients, it was revealed that the service quality perceptions of patients at an advanced age were higher than those of younger patients (2006).

The equal weighted servqual median value per level of education for the expectations and perceptions regarding the quality of healthcare of patients applying to a healthcare institution was found to be -0.1 for illiterate patients, -0.4 for graduates of primary education, -0.4 for graduates of secondary education, -0.7 for graduates of tertiary education, -1.1 for graduates of associate programs, -0.8 for graduates of bachelor's programs and -0.4 for patients involved in post-graduate studies. When compared in terms of the level of education, the expectations of patients display a difference in the servqual sub-dimensions of tangibles, assurance and empathy. And when compared in terms of the same, the perceptions of patients display a difference in the servqual sub-dimensions of tangibles, reliability, responsiveness, assurance and empathy. Likewise, a difference was observed in the equal weighted servqual values in terms of the level of education. The hypotheses Ac and Bc were accepted. In the study conducted by Yalkın it was revealed that the perceived service quality varies in accordance with the level of education. The equal weighted servqual score was found to be 0.21 for patients who have received primary education, -0.04 for tertiary education, -0.16 for patients with a bachelor's degree and -0.25 for post-graduate degrees (2010). In the study conducted by Devebakan on patients, it was concluded that as the level of education goes lower, expectations also decrease and service quality perception levels increase (2001).

The equal weighted servqual median value per monthly income for the expectations and perceptions regarding the quality of healthcare of patients applying to a healthcare institution was found to be -0.5 for patients with an income between TRY 500-1500 and with no income, -0.6 for patients with an income between TRY 1501-2000 and -0.7 for patients with an income of TRY 2001 and above. In terms of the variable of monthly income, expectations of patients display no difference in the servqual sub-dimensions. Patient perceptions, however, differ in terms of the sub-dimensions of reliability, responsiveness, assurance and empathy. While hypothesis Ad was rejected, hypothesis Bd was accepted. In the study conducted by Demir on patients, it was found out that as income level increases the level of service quality perception decreases (2008). In another study carried out by Aytekin et al. it was revealed that when the satisfaction level and monthly income of patients who took part in the study were compared, the satisfaction of patients receiving healthcare services increases as their income level decreases and that such difference was statistically significant (2012).

CONCLUSION AND RECOMMENDATIONS

Due to advancements in technology, the development of healthcare industry with each passing day, the increasing awareness on the consumers' side and the pursuit for quality in healthcare services, the expectations of patients increase. Consumers are becoming more and more aware. The physical conditions of the healthcare institution also have an influence on the decisions and satisfaction levels of patients. Hospital managements can measure patient expectations at certain intervals and make the necessary regulations in fields where the expectations are not met. In our day, what matters are not only the services provided but also the setting wherein such services are provided and visibility and comfort. In terms of the tangibles sub-dimension, one can make the hospital more attractive for patients; more resting areas can be designed and more information and guidance signboards can be utilized within the facilities. By using colors which would make patients feel happier and more energetic in the interior design of the hospital and tools and equipment, the hospital can likewise be rendered more attractive for patients. It is also possible to modernize the equipment by closely following the advancements in the relevant fields. Buildings and structures of the hospital facilities can be rendered more visually attractive.

When the personnel and other conditions are considered, a hospital is expected to be reliable. It is important that the patient trusts the personnel and feels at ease and safe. There are times when the patient expects the healthcare personnel to empathize with him/her about his/her condition. Both the personnel and patients can be trained in the field of communication in healthcare. Hospital managements can organize training sessions for their personnel on the subject of communication with patients. There can also be periodical training seminars in order to keep the occupational knowledge of the hospital personnel up to date.

The fact that patients think that the services provided are of good quality has an impact on the preferability of the healthcare institution. Ensuring the provision of quality services, fulfilling the expected conditions and increasing the quality of existing procedures is deemed to bring about an increase in the preferability rates of a healthcare institution. Accessibility of the healthcare institution is another highly important issue. The hospital being well equipped and patients thinking they are at the best hospital also greatly impacts patient preferences. The quality of patient care is also gaining increasing importance. It is recommended that in order for the institution to be able to meet the expectations, it needs to follow up with the innovations in the field of healthcare and regularly renew the equipment.

The need for constant improvement would also allow different perspectives for existing conditions. In the quest for better quality, questioning the performance and criteria which can increase performance would reveal the capabilities of the institution and enable the evaluation of healthcare managers in terms of to what extent they perform their duties. Quality improvement endeavors and the implementation of relevant processes and procedures should not be left with a group of personnel or the quality assurance unit. Such processes and procedures need to be adopted and implemented by the whole personnel. Quality should be among the higher ranking items in the manager's agenda and not considered as an obligatory program that needs to be followed. One should not think that the institution already is of good quality and must always aim for the better. Aspiring for perfection may, however, bring with it a resistance on the personnel's side.

Habits, fear of the unknown, wishing to remain at one's safe zone and similar reasons may cause this resistance to change. A restricted resource is another thing that can delay the change. In order to be able to achieve the change and the targeted quality levels, it is asked from the personnel that they are open for change. Institutions which may not be deemed to be open for change can make some changes through a few small steps. The personnel should be kept informed of the reforms and changes within the institution. Orientation programs can be organized in order to harmonize those personnel who are not open for change. The importance of innovation and entrepreneurship should be explained to the personnel. The management and the personnel can work hand in hand to render the institution an internationally renowned hospital that produces healthcare services fulfilling the national and international standards and acts as the flag-bearer for high quality healthcare service provision. Hospital management can come up with projects aiming at increasing the institution's quality. Meetings can be held with the participation of the personnel. Ensuring patient satisfaction is one of the priorities of a healthcare institution. It is believed that through the participation of personnel, problems can be solved much quicker and the performance and commitment of the personnel can be increased.

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