



Evaluation of individuals' satisfaction with health care services in Turkey

Özgür Uğurluoğlu, Duygu Ürek*, İpek Bilgin Demir

Department of Health Care Management, Faculty of Economics and Administrative Sciences, Hacettepe University, Ankara, Turkey



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ABSTRACT

Objectives: To demonstrate whether features related to the institution and service provider affect individuals' level of satisfaction regarding the public health care services they receive.

Methods: This study used hierarchical regression analysis and data from the Life Satisfaction Statistics survey implemented by the Turkish Statistical Institute, with 9,397 people in 2015. Level of satisfaction with public health care services was the dependent variable. Having any problems with securing an appointment for examination and analyses, cleanliness/hygiene, attitudes of physicians and nurses/caregivers towards patients, costs of examination and analyses, prices of medications, queuing for examination and/or analyses, co-payments for examination, and if they think the number of physicians and medical personnel is adequate were the independent variables.

Results: Securing appointments, costs of examinations and analyses, inadequate number of physicians and medical personnel, prices of medications, queuing, cleanliness/hygiene, attitudes of physicians and nurses/caregivers, and co-payments were important determinants of individuals' level of satisfaction with health care services.

Conclusions: This study revealed that despite the development in the health care sector in Turkey, individuals continue to experience problems with various areas related to health care services, and accordingly, further improvements are needed.

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Introduction

Satisfaction surveys regarding health care services have received growing interest worldwide especially in the last 20 years [1]. Governments have discovered that the stability of a health care system cannot be achieved without adequate satisfaction of the community and health care users. Accordingly, they have started considering satisfaction of individuals with health care services as an important indicator of the quality of health care services and the efficiency of health care systems. Thus, they are conducting regular measurements in this context [2–6].

One of the underlying reasons for the importance of users' satisfaction with health care services is that it is a health outcome in its own right. Individuals who are satisfied with health care services are more likely to have a positive attitude toward their own health conditions, and are more compliant and cooperative in their treatment [2,7].

Evaluation of satisfaction is also important in terms of the continuous monitoring and development of quality in the delivery of

health care services. Evaluations of individuals in this regard can enable health care managers, service providers, and planners to pay attention to the needs, perceptions, and concerns of the community for delivering better quality health care services by determining deficient areas. In addition, measurement of the level of satisfaction with health care services may encourage health care professionals to take more responsibility pertaining to the services they provide, and it may help to understand users' tendency to reuse health care services and recommend health care institutions to others [2,7–8].

On the other hand, satisfaction with health care services is a multi-dimensional phenomenon that can be affected by many factors [2,7]. Such factors are separated into three groups in the literature. These are *patient-related factors* such as age, gender, level of education, nationality, income, health condition, and disease severity; *provider-related factors* such as attitudes of health care personnel, communication skills, technical competence, and attitudes on information sharing; and *institution-related factors* such as infrastructure, cleanliness, waiting times, and administrative procedures [9,10]. It is acknowledged that understanding these factors and attempting to improve them will improve the quality of the health care system. In this case, better health outcomes may be achieved by facilitating the effective use of health care

* Corresponding author.

E-mail address: duyguurek@hacettepe.edu.tr (D. Ürek).

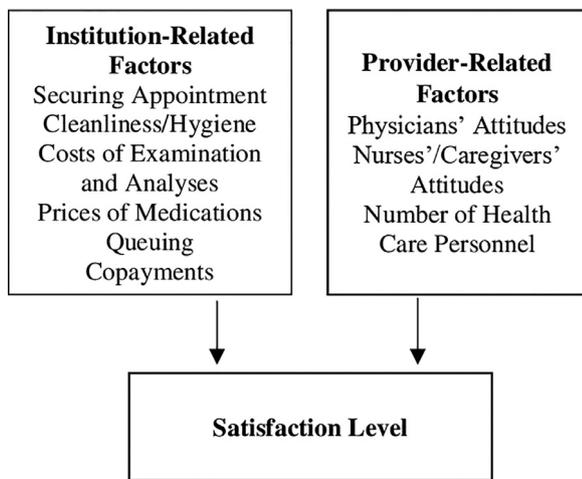


Fig. 1. Research model.

services [1,7]. Though several international studies have attempted to determine these factors, most have focused on individuals' satisfaction with the services received from an institutional perspective [1,10–13]. Few other studies have examined the level of satisfaction of the community with the health care services they have received across the country [3–5,7].

In Turkey, almost all studies have focused on health care institutions [14–18]. However, considering that a nationwide study is important in terms of demonstrating the strengths and weaknesses of the health care system, this was the main starting point of this study. Accordingly, the present study aimed to determine factors affecting individuals' level of satisfaction with public health care services in Turkey, where an intensive reform process has begun with the implementation of Health Transformation Program (HTP) since 2003, which led to a significant increase in the community's level of satisfaction with health care services.

Methodology

Purpose of the study and research model

This study aimed to demonstrate whether institution-related (securing appointments for examination and analyses, cleanliness/hygiene, costs of examination and analyses, prices of medications, queuing, and co-payments) and provider-related (attitudes of physicians and nurses/caregivers, number of physicians and medical personnel) factors affect individuals' level of satisfaction with the public health care services they receive. The research model has been presented in Fig. 1.

Data and variables used in the study

This study utilized data from the Turkish Statistical Institute's 2015 Life Satisfaction Statistics survey by obtaining necessary permissions from the relevant institution. Accordingly, this study did not require ethical approval for research on human/animal subjects. The first Life Satisfaction Statistics survey was implemented as an additional module in the Household Budget Survey in 2003, and since 2004, it has been implemented annually. The main objective of the Life Satisfaction Statistics survey is to measure individuals' general perception of happiness, general satisfaction with major areas of their life, and their level of satisfaction with public services in these areas. One of these areas is the level of satisfaction with health care services, which is assessed using the question 'Are you satisfied with the public health care services?', rated on 5-point Likert scale (1 = very satisfied; 5 = not satisfied at all).

Since this study aimed to determine the extent to which institution and provider-related factors affect individuals' level of satisfaction with services received, the variable 'level of satisfaction with public health care services' was used as the dependent variable.

Participants' opinions about various aspects of institution and provider-related factors of health care services received were also evaluated. They were asked whether they had experienced any problems in securing an appointment for examination and analyses, cleanliness/hygiene, attitudes of physicians and nurses/caregivers towards patients, costs of examination and analyses, prices of medications, queuing for examination and/or analyses, co-payments for examination, and adequacy of the number of physicians and medical personnel. These factors, which are used as independent variables in this study, are thought to influence the level of satisfaction with health care services [5,19,20]. In addition, age, gender, and marital status were used as control variables in this study.

Despite surveying 9397 participants in the Life Satisfaction Statistics survey in 2015, 75 participants who replied 'I don't have an opinion' to the question measuring the level of satisfaction with health care services were excluded from the present analysis, and accordingly, 9322 participants were included in the study.

Data analysis

There are growing interests in considering multilevel factors in healthcare research. In this context, hierarchical regression model is generally used in studies conducted to analyse health outcomes or healthcare processes. As the level of satisfaction is also an important health outcome, it is recommended to use the hierarchical regression model in the studies about this subject [21]. This technique is particularly appropriate for research designs with data that varies at more than one level. It attempts to improve a standard regression by adding a second stage regression to an ordinary model. It evaluates the relationship between one set of independent variables and the dependent variable, controlling for, or taking into account, the impact of another set of independent variables on the dependent variable [22]. Due to this reason, a hierarchical regression analysis was used to determine whether participants' level of satisfaction with health care services was affected by various institution and provider-related factors. The first stage of the hierarchical regression analysis included the control variables of age, gender, and marital status. In the second stage, the institution and provider-related factors were included in the model, and their effects on the dependent variable, level of satisfaction with public health care services, were examined.

Results

Among the participants included in the study, 53.6% were women while 46.4% were men. Their average age was 43.9 (SD = 16.27) years and 74.3% were married. The opinions of the research participants regarding the characteristics of the health care services they generally receive have been presented in Table 1. As evident from the table, 15.5% of the participants stated that they experienced problems in securing appointments for examinations and analyses at health care institutions, while 18% indicated experiencing problems regarding cleanliness/hygiene. Further, 16.9% and 15.8% of the participants stated that they experienced problems with the attitudes of physicians and nurses/caregivers towards patients, respectively. The percentage of participants who thought that the number of physicians and medical personnel was inadequate was 43.3%, while that for participants who considered that the costs of examination and analyses were too high was 50.4%. Additionally, 45.7% of the participants thought that there

Table 1
Opinions of participants regarding the institution and provider-related factors of public health care services they receive.

Regarding the institutions in which you generally receive health care services	No.	%
<i>Do you have a problem securing an appointment for examination and analyses?</i>		
Yes	1446	15.5
No	7642	82.0
I have no opinion	234	2.5
<i>Is there a problem with cleanliness/hygiene?</i>		
Yes	1676	18.0
No	7511	80.6
I have no opinion	135	1.4
<i>Are there any problems with attitudes of physicians towards patients?</i>		
Yes	1573	16.9
No	7631	81.9
I have no opinion	118	1.2
<i>Are there any problems with attitudes of nurses/caregivers towards patients?</i>		
Yes	1472	15.8
No	7640	82.0
I have no opinion	210	2.2
<i>Do you think the number of physician and medical personnel is inadequate?</i>		
Yes	4033	43.3
No	4353	46.7
I have no opinion	936	10.0
<i>Do you think the costs of examination and analyses high?</i>		
Yes	4695	50.4
No	3735	40.1
I have no opinion	892	9.6
<i>Are there any problems with prices of medications?</i>		
Yes	4260	45.7
No	4439	47.6
I have no opinion	623	6.7
<i>Do you have a problem with queuing for examination and/or analyses?</i>		
Yes	3096	33.2
No	5981	64.2
I have no opinion	245	2.6
<i>Do you think co-payment for the examination is a problem?</i>		
Yes	5477	58.8
No	3281	35.2
I have no opinion	564	6.0
Total	9322	100.0

was a problem with the prices of medications, while 33.2% indicated that they experienced problems in queuing for examinations and/or analyses.

The mean level of satisfaction of participants was 3.62 (SD=0.87). It can be stated that the level of satisfaction of participants with public health care services was medium. Table 2 shows the results of the regression analyses conducted to determine whether participants' level of satisfaction with health care services they received were affected by various institution and provider-related factors. In the generated regression models, dummy variables were used to determine the effects of personal qualitative variables (control variables) such as age, gender, and marital status, as well as qualitative variables related to the institutions and service providers such as securing appointments, cleanliness/hygiene, attitudes of physicians and nurses/caregivers, costs of examinations and analyses, etc. To demonstrate the differences between participants who stated they had problems (those who responded 'yes' to the corresponding question) and other participants more clearly for the qualitative variables related to the institutions and service providers, the 'I have no opinion' and 'no' (I don't have a problem) responses were combined under the 'other' category for the analyses. The original scale of the question measuring participants' level of satisfaction with health care services demonstrates respondents indicating 1 'very satisfied' and 5 'not satisfied at all'. To improve understandability, original scale was reversed.

As evident from Table 2, the characteristics analyzed increased the R² from 0.015 to 0.172. In other words, while 1.5% of the variance in the regression model was explained by the control variables of age, gender, and marital status, once the institution

and provider-related factors were added to the model, the explained variance increased to 17.2%. Standardized regression coefficients (β) allow for a direct comparison between coefficients as to their relative explanatory power of the dependent variable [23]. The variable with a high coefficient is the variable that contributes the most to the model. Accordingly, the characteristics best explaining the participants' level of satisfaction with health care services included securing appointments ($\beta = -0.095$), costs of examination and analyses ($\beta = -0.095$), inadequate number of physicians and medical personnel ($\beta = -0.089$), prices of medications ($\beta = -0.083$), queuing ($\beta = -0.080$), cleanliness/hygiene ($\beta = -0.078$), attitudes of physicians ($\beta = -0.078$), attitudes of nurses/caregivers ($\beta = -0.057$), and co-payments ($\beta = -0.041$), respectively.

Discussion

This study aimed to utilize data from the Turkish Statistical Institute 2015 Life Satisfaction Statistics survey to reveal factors affecting individuals' satisfaction with public health care services. The analyses showed that the following variables were important determinants of individuals' satisfaction with health care services, respectively: securing appointments, costs of examinations and analyses, inadequate number of physicians and medical personnel, prices of medications, queuing, cleanliness/hygiene, attitudes of physicians and nurses/caregivers, and co-payments.

Specifically, the findings revealed that individuals who experienced problems in securing an appointment for examinations and analyses were less satisfied as compared to other participants. This

Table 2
Regression analysis results regarding prediction of satisfaction with health services in terms of various characteristics.

Variables	First step		Second step	
	β	p	β	p
Age	0.113	<0.001	0.038	<0.001
Gender				
Women ^a	0.013	0.204	0.025	0.008
Marital status				
Married ^b	0.028	0.007	0.037	<0.001
Securing appointment				
Yes ^c			-0.095	<0.001
Cleanliness/Hygiene				
Yes ^c			-0.078	<0.001
Attitudes of physicians				
Yes ^c			-0.078	<0.001
Attitudes of nurses/caregivers				
Yes ^c			-0.057	<0.001
Number of personnel				
Yes ^c			-0.089	<0.001
Costs of examination and analyses				
Yes ^c			-0.095	<0.001
Prices of medications				
Yes ^c			-0.083	<0.001
Queuing				
Yes ^c			-0.080	<0.001
Co-payments				
Yes ^c			-0.041	0.001
R		0.122		0.416
R ²		0.015		0.172
F		46.651*		162.792*
Durbin Watson		1.648		1.769
N		9322		9322

Dependent variable: Satisfaction level.

- ^a Men (Reference).
- ^b Single (Reference).
- ^c Other (Reference).
- * $p < 0.001$.

problem was also one of two factors that most influenced participants' satisfaction with health care services. If securing an appointment is considered as the individual's first point of contact with the health care system, since it is the first stage of seeking health care services, this could be an expected result. This finding is consistent with the relevant literature. For example, a study of 192 patients in Washington found that ease of securing an appointment was one of the factors affecting patient satisfaction [24]. Similarly, a study conducted on 531 women using dental health services in Saudi Arabia found a statistically significant relationship between ease of securing an appointment and satisfaction with services [25].

Further, problems related to costs of examination and analyses was another factor that had the largest impact on individuals' satisfaction with health services in this study. Since problems related to costs of examination and analyses could present an obstacle for individuals accessing services, this factor could negatively affect their satisfaction level. This finding supports results obtained from studies conducted in Jordan [2], Qatar [3], Nigeria [11], Turkey [14], South Africa [19], and Indonesia [26].

In this study, the inadequate number of physicians and medical personnel was identified as a third factor affecting individuals' satisfaction with health care services, mostly. Since the unavailability of health personnel may lead to insufficient health service delivery, it is expected that this factor would affect individuals' satisfaction with health care services negatively. This finding is consistent with the relevant literature. For example, according to a study conducted at 430 hospitals in California, Pennsylvania, New Jersey, and Florida, the number of patients per nurse was an important determinant of patient satisfaction [27]. Similarly, in a study conducted using data from 31 countries, there was a

strong positive relationship between the number of physicians and nurses and the satisfaction level of patients [28].

The present study also found that prices of medications were the fourth factor affecting individuals' satisfaction with health care services, mostly. Since this problem could impede patients' access to the necessary medications, this factor may cause participants to be less satisfied with health care services. This finding is consistent with the findings of similar studies. For instance, in a study conducted with over 3400 individuals in Iran, medication costs were identified as an important determinant of the individuals' dissatisfaction with the health care system [20].

Queuing was the fifth most important determinant of individuals' level of satisfaction with health care services in the present study. High waiting times can negatively affect individuals' perceptions about the quality of health care services, and thus leads to dissatisfaction. This finding is consistent with the results in studies conducted in Malaysia [4], the Republic of Macedonia, Serbia, and Bulgaria [5], Turkey [6], South Africa [19], Indonesia [26], Estonia [29], and China [30].

The sixth factor affecting individuals' level of satisfaction with health care services was cleanliness/hygiene. Specifically, individuals who experienced problems regarding cleanliness/hygiene were less satisfied as compared to others who did not report the same. Cleanliness and hygiene are more important for individuals especially when it comes to health. Studies reported in the international and national literature have presented similar results [2,11-13,17-19].

In this study, the attitudes of physicians and nurses/caregivers were also found as two of the last three factors affecting individuals' satisfaction with health care services. This finding suggested that, participants who considered the attitudes of physicians and nurses towards patients to be less optimal, or those who do not receive enough attention and kindness from health care personnel, were less satisfied with the health care services they received. This finding is consistent with the results of previous studies [2,5,11,16,18,19].

Finally, co-payment was found as the last factor affecting individuals' level of satisfaction with health care services. Specifically, individuals who experienced problems with co-payments were less satisfied as compared to those who did not report the same. This finding is consistent with those related to the effects of having problems related to costs of examinations and analyses, and prices of medications. One purpose of using co-payments in health care systems is to prevent the unnecessary use of health care services. However, careful attention should be paid to determining the co-payment amount, as higher co-payments may also prevent individuals from using health care services that they really need. This, in turn, would reduce their satisfaction with health care services.

Conclusion

It is stated that most national health systems of the region of South Eastern Europe (including Turkey) previously were ranked substantially lower in terms of patient satisfaction in the WHO ranking of 2000 [31]. With the implementation of HTP in Turkey, the satisfaction rate with health care services, increased from 39.5% in 2003 to 71.4% in 2017 [32]. Together the efforts of institutions, this program led to major and radical changes and improvements in many areas of the health care sector, ranging from service delivery to financing, and from labor to information systems. One of these improvements is the introduction of the Central Physician Appointment System in 2010, which was implemented nationwide in 2012. The main purpose of the system is to provide a calm and peaceful environment for everyone by eliminating pre-visit waiting times and preventing overcrowding in hospitals and outpatient clinics. This system serves individuals

through the '182 Call Center', the Internet, and mobile applications [33]. Also, with the introduction of HTP, the average number of physicians per 1000 persons increased from 1.38 in 2002 to 1.86 in 2017, while the average number of nurses and midwives per 1000 persons increased from 1.71 in 2002 to 2.72 in 2017. The number of other health care personnel increased from 0.75 in 2002 to 1.95 in 2017 [32]. Furthermore, the unbalanced distribution of physicians among the different regions is also declining gradually.

Despite these improvements in the healthcare sector, the results of this study indicate that individuals continue to experience problems with various areas related to public health care services. The findings show that especially further improvements are needed in securing appointments and regulating the costs of health care services, which in turn may have a positive impact on individuals' level of satisfaction with health care services. In addition to these factors, inadequate number of physicians and medical personnel, prices of medications, queuing, cleanliness/hygiene, attitudes of physicians and nurses/caregivers, and co-payments were also found as important determinants. It is thought that the regulations and improvements to be made about these factors will increase the level of satisfaction of citizens.

In Turkey, almost all the studies on this topic have assumed an institutional perspective. One of the strengths of this study is that no nationwide study has focused on the institution and provider-related factors affecting individuals' satisfaction with the health care services they receive. Another strength of the size of the sample achieved by utilizing data collected by the Turkish Statistical Institute. Therefore, the generalizability of the present results to the whole community is quite high. However, the satisfaction level was assessed only by a single question in the Life Satisfaction Statistics survey. Accordingly, it is suggested that, in future studies, the satisfaction level should be measured considering its multidimensional nature. Such studies would have important contributions to the health care reform process within the country.

The present findings are significant in that they serve as a guide to health care administrators, health care service providers, and policy planners for understanding the deficiencies in health care system on a macro level and those in the services provided in public health care institutions on a micro level. Future healthcare reforms can be shaped according to these weaknesses identified in this study. Thus, both the quality of public health care services and the satisfaction rate with these services can be improved at country and institution level with the strong and effective interventions and careful resource allocations in these deficient areas. Furthermore, it is thought that these results may provide important clues for other countries that have experienced similar changes and reforms similar to the Turkish Health Care System and that have similar health indicators.

Author statements

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Competing interests

No competing interests were reported by the authors.

Ethical approval

This study does not require any human/animal subjects to acquire an ethical approval.

Authors' contributions

The permission of using data was obtained by İpek Bilgin Demir.

The data were analyzed by Özgür Uğurluoğlu.

The literature research was done by Duygu Ürek, and all authors have contributed in preparation of the final manuscript.

Supplementary material

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.hlpt.2019.02.003.

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