



Quality of health care and patient satisfaction

An exploratory investigation of the 5Qs model at Turkey

Hatice Camgöz-Akdağ

Kadir Has University, Istanbul, Turkey, and

Mosad Zineldin

School of Management and Economics, Växjö University, Växjö, Sweden

Abstract

Purpose – The aim of this research is to examine the major factors affecting patients' perception of cumulative satisfaction and to address the question whether patients in Istanbul evaluate quality of health care to be similar or different to that of the Kazakhstani, Egyptian and Jordanian patients.

Design/methodology/approach – A conceptual model including behavioural dimensions of patient-physician relationships and patient satisfaction has been used for approach. As the empirical research setting, this study concerns people who are or were patients once in Istanbul hospitals.

Findings – The questionnaire was taken from another research regarding Egyptian and Jordanian medical clinics. The same research was also done by the authors in Kazakhstan in 2008. A total of 48 items (attributes) of the newly developed five quality dimensions (5Qs) by the second author were identified to be the most relevant.

Practical implications – The results of this study can be used by the hospitals to reengineer and redesign creatively their quality management processes and the future direction of their more effective health care quality strategies.

Originality/value – A 5Qs model to measure the patients' satisfaction of medical care is proposed as for previous studies for Kazakhstanian, Egyptian and Jordanian hospitals. As mentioned previously the 5Qs model encompasses technical, functional, interaction, infrastructure and the atmosphere qualities and services. The results can be used by the hospitals to reengineer and redesign creatively their quality management processes and the future direction of their more effective health care quality strategies.

Keywords Health services sector, Patients, Customer satisfaction, SERVQUAL, Turkey

Paper type Research paper



1. Introduction

Healthcare satisfaction has become the latest trend nowadays. It has been realised that in order to have a better competitive advantage or best practice in the healthcare industry patient's perception for quality has to be measured deeply and the quality strategies should be set according to these analysis and findings.

Healthcare satisfaction has gained greater importance in developing countries. It is both an indicator of quality of care, and a component of quality care (Camgoz-Akdag and Zineldin, 2010). Having a strong healthcare system in place will enable healthcare providers to deliver better quality and value to patients (Radhika *et al.*, 2007). People are dying daily as a result of uncontrollable events such as automobile accidents or chronic disease, but deaths due to medical error are preventable, and a nation's

healthcare system must reach the point where no patient will ever be the victim of a medical error (Radhika *et al.*, 2007).

Competitiveness among healthcare organisations depends on patient's satisfaction, which is created through a combination of responsiveness to the patient's views and needs, and continuous improvement of the healthcare services, as well as continuous improvement of the overall doctor-patient relationship (Zineldin, 2006).

The challenges in achieving healthcare excellence are many and difficult to deal with. Work by Trusko *et al.* (2007) reports on how errors are difficult to measure for variety of reasons such as inadequate reporting with varied definitions and further complications arise with most of the errors not being the result of a single act but a chain of events.

In addition to this, there are problems of structure, personalities, patients, and providers. With changes in demographics, the political environment, social perceptions of healthcare quality and information technology have the potential to dramatically change the face of healthcare. All this creates a complex situation in which we assess healthcare with the main idea of analysing how well patients are satisfied, what is valued by patients, how the patient's perceive the quality of care, and how these can be improved.

The aim of this research is to examine the major factors affecting patients' perception of cumulative summation. The factors included in this summation are the technical, functional, infrastructure, interaction and atmosphere of hospitals in Istanbul, which was adopted from a previous research done by Zineldin (2006) regarding Jordanian and Egyptian hospitals. The same research was done by Camgoz-Akdag and Zineldin in Kazakhstan in 2008 as well. This research contributes to previous academic studies and knowledge in quality management in the healthcare sector in two ways.

Firstly, the model developed by Zineldin (2006) including behavioural dimensions of patient-physician relationships and patient satisfaction will be reviewed and analysed. Secondly, empirically examine the major factors affecting perception of the cumulative satisfaction to address the question whether patients in Turkey evaluate quality of healthcare similarly or differently than Kazakhstani, Egyptian and Jordanian patients. The results can be used by the hospitals to improve their healthcare quality and patient satisfaction by setting healthcare quality strategies.

2. Background: healthcare in Turkey

Health right is guaranteed by the constitutional law in Turkey. The Ministry of Health of Turkey, which was established in 1920, was the first Ministries of Health in the world giving priority to the prevention of health problems, rather than the treatment of diseases (Turkish Republic Ministry of Health, 2009). Mainly the Ministry of Health, Social Insurance Organisations (SSK), Universities, The Ministry of Defence, and Private Sector provide health services in Turkey. Unfortunately the number of state hospitals is not enough to meet the needs and expectations of the population. According to this opportunity in the health industry the number of private hospitals is increasing rapidly.

The aim of these private hospitals is to give service to patients with high-income levels. Even though the aim is to reach the high-income patients still patients who are satisfied with state hospitals or SSK hospitals and who do have a sum of money do

apply to these private hospitals. Private hospitals and clinics are mostly collected in major cities and luxury neighbourhoods. About two-thirds of hospitals are located in Istanbul.

Even though there are plenty of rules and regulations for hospitals and clinics it should be stressed that there is not any standard to audit and evaluate the quality of healthcare in Turkey. In addition to this neither the state nor the private hospitals are audited or controlled by real means for their medical applications (Cetik *et al.*, 2004).

According to Cetik *et al.* (2004) the absence of standards, control, audit and evaluation results in the reality that the patients' diagnosis and treatment processes are minimised to only the capacity, information, and ethics of the doctor and hospital staff. Cetik *et al.* (2004) includes that as there is no standard for healthcare in Turkey, success is perceived as the relative quality of paramedical service.

3. 5Qs model

In the literature, service quality is commonly attributed with two dimensions: technical quality and functional quality (Grönroos, 2000). Technical quality refers to what the customer buys and whether the service fulfils its technical specifications and standards. Functional quality describes how the service product was delivered and the quality of customer relationship with the company. SERVQUAL quality is a multidimensional concept and in order to operationalise it many variables have to be considered (Zineldin, 2006).

However, the 5Qs model is an instrument that assures a reasonable level of relevance, validity and reliability, while being explicitly change oriented. The interaction process between the provider and receiver of a service is influenced by the atmosphere in a specific environment where they co-operate and operate (Ford *et al.*, 1998; Zineldin, 2000, 2004; Robicheaux and El-Ansary, 1975). This is applicable in a hospital, medical centre or private medical clinic atmosphere where the patient, physicians, nurses and other health care staff are operating in turn (Zineldin, 2006).

The atmosphere can affect the perceived service quality by improving it or by making it worse, which will also affect the quality of health. Service quality in healthcare does not only depend on the quality of physicians but also includes the staff, nurses, building, waiting room, technical apparatus, machines used in care, etc. It can be said that healthcare quality and patient satisfaction is more detailed than just dividing the quality of service into technical and functional quality.

Zineldin (2000) expanded the technical-functional and SERVQUAL quality models into a framework of five quality dimensions (5Qs):

- (1) Quality of object – the technical quality (what customers receive). It measures the treatment itself; the main reason of why the patient is visiting the hospital.
- (2) Quality of processes – the functional quality (how health care provider provides the core service). It measures how well health care activities are being implemented.
- (3) Quality of infrastructure – measures the basic resources, which are needed to perform the health care services.
- (4) Quality of interaction – measures the quality of information exchange (e.g. the percentage of patients who are informed when to return for a check-up, amount

of time spent by physicians or nurses to understand the patient's needs), financial exchange and social exchange.

- (5) Quality of atmosphere – the relationship and interaction process between the parties are influenced by the quality of the atmosphere in a specific environment where they cooperate and operate. Especially in poor developing countries lack of friendly atmosphere explains poor quality of care, in order to avoid this atmosphere indicators should be considered very critical.

4. Methodology

The aim of this research is to examine the major factors affecting patients' perception of cumulative summation. Secondly it aims to figure out whether if there is any similarity in the perception of patients in Turkey with the Kazakhstanian, Egyptian and Jordanian ones. This study concerns people who are or were once a patient in Turkish hospitals.

A questionnaire was distributed which was adapted from a previous research done by Zineldin, 2006. Our questionnaire contains a total of 39 items (attributes) of newly developed five quality dimensions (5Qs), which were identified to be the most relevant attributes for hospitals. The questionnaire was translated in to Turkish to provide a better understanding, to increase the respondent rate and to improve the quality of the data. Istanbul was chosen as the region to be analysed as it has the highest population as well as has the highest number of hospitals that is total of 190. Among these hospitals 52 of them are state hospitals and the rest are private.

For this reason this will give an effective generalisation for Turkey regarding healthcare. The sample size was decided to be 1,500 that were enough to make statistical analysis. A total of 1,107 complete and usable questionnaires were received. Frequency distribution, factor analysis and reliability analysis is used for analysing the data collected. In a frequency distribution, one variable is considered at a time.

The objective is to obtain a count of the number of responses associated with different values of the variable is expressed in percentages (Malhotra, 2007). As frequency distribution is a descriptive analysis it will show how respondents perceive each attribute related to quality of healthcare. Factor analysis is a method of transforming the original variables into new, non-correlated variables, called factors (Malhotra, 2007).

This is used to identify key points emerging from the questionnaire; the reliability analysis tests the validity of these key points. Factor analysis is an interdependence technique in that an entire set of independent relationships is examined. Factor analysis will identify the major points where hospitals need to improve and how patients perceive quality in hospitals. Reliability analysis test was also used as it refers to the extent to which a scale produces consistent results if measurements are made repeatedly.

The reliability analysis was tested on all 39 attributes which was included in the questionnaire. In the previous section it was mentioned that the 5Qs model is an instrument that assures a reasonable level of relevance, validity and reliability, while being explicitly change oriented. The reason of including factor analysis is to be able to find out which of the dimensions of 5Qs model is perceived in Turkey.

5. Analysis and results

The quality of healthcare and patient satisfaction questionnaire had a general reliability (Cronbach α), which relates to the variation of 97.64 per cent. The 39 variables associated to the 5Qs model as attributes of it were reduced into a new set of salient variables by the factor analysis.

Factors with eigenvalues greater than 1.0 are retained. Inspection of scree plot and eigenvalues enabled the analysis to reduce the 39 quality attributes into 3 factors. The resulting component factor matrix is given in Table I. Table II shows the factors and corresponding quality attributes related to the 5Qs model.

	Component	1	2	3
1	Quality Object1			0.825
2	Quality Object2			
3	Quality Object3			
4	Quality Object4			
5	Quality Object5			
6	Quality Process1			
7	Quality Process2			
8	Quality Process3			
9	Quality Process4			
10	Quality Process5			
11	Quality Process6			
12	Quality Infrac.1			
13	Quality Infrac.2			
14	Quality Infrac.3		0.728	
15	Quality Infrac.4	0.771		
16	Quality Infrac.5	0.741		
17	Quality Infrac.6		0.718	
18	Quality Infrac.7			
19	Quality Infrac.8			
20	Quality Infrac.9			
21	Qual. Infrac.10			
22	Qual. Infrac.11			
23	Qual. Infrac.12			
24	Quality Interac.1			
25	Quality Interac.2			
26	Quality Interac.3	0.714		
27	Quality Interac.4			
28	Quality Interac.5			
29	Quality Interac.6	0.744		
30	Quality Interac.7		0.803	
31	Quality Atm.1		0.820	
32	Quality Atm.2		0.868	
33	Quality Atm.3		0.874	
34	Quality Atm.4		0.868	
35	Quality Atm.5			
36	Quality Atm.6		0.733	
37	Quality Atm.7			
38	Quality Atm.8	0.763		
39	Quality Atm.9			

Table I.
Rotated component factor
matrix

Factors	5Qs model attributes (components)
Factor 1	QInf.4 – Taste of the food QInf.5 – Temperature of the food QInt.3 – Ability of the hospital to give what they promised in advertising (in case of private hospital) QInt.6 – Waiting time for refund, if due QAtm.8 – Ability of sleeping accommodations for your family
Factor 2	QInf.3 – Skill of the physicians attending you QInf.6 – Professional appearance of physicians and nurses QInt.7 – Instructions about billing procedures QAtm.1 – Responsiveness of nurses to your needs Qatm.2 – Ability of information about your condition Qatm.3 – Politeness of the physicians Qatm.4 – Politeness of the nurses Qatm.6 – Responsiveness of the physicians to your needs
Factor 3	QObj.1 – Sense of well-being that you felt in the hospital

Table II.
5Qs model attributes and corresponding factors

Factor 1: quality of infrastructure and quality of interaction

The highest loading to the first factor was given to the taste of the food. Second highest loading was the ability of sleeping accommodations for your family. The third highest loading was given to temperature of the food. This meant that the patients biggest concern was the quality of food served and ability of sleeping accommodations for patients' family members in hospitals.

In addition to the factor analysis when the frequency of answers to this attribute was analysed it is seen that 32.7 per cent said the taste of food is average, 24.6 per cent said that it was good and 11.7 per cent said it was very good. The second highest loading attribute had a response as 28.5 per cent average, 23.5 per cent bad, 7.6 per cent very bad, 23.7 per cent good and 14.4 per cent very good when the ability of sleeping accommodations for family members in hospital was the topic.

The third component which was temperature of the food was analysed 31 per cent said it is average, 25.5 per cent good, 12.2 per cent very good, 22.8 per cent bad, and 6.2 per cent very bad.

Factor 2: quality of atmosphere

The second factor relates to the attitude of the staff in dealing with patients at the hospitals in Turkey. The highest loading given in this factor was the component related to politeness of physicians, second and third highest loadings had equal loads, which were related to politeness of nurses and ability of information about your condition.

This factor also included components such as skill of the physicians attending you, professional appearance of physicians and nurses, responsiveness of the physicians to your needs. This was checked with the frequencies analysis of responses, which gave the following result: 33.6 per cent of the respondents stated that politeness of physicians is good, 23.6 per cent said very good, and 18.7 per cent said it is average.

The politeness of nurses was perceived as 19.5 per cent average and 30.4 per cent as good and 25.3 per cent as very good. The ability of information about your condition was distributed as 20.5 average, 33.7 per cent good and 21 per cent very good. Patients

are happy with what they receive but this is strong evidence that the second most important factor for patients is the atmosphere they feel when in relation with physicians and nurses.

Factor 3: Quality of objective

The third and last factor is related with quality of objective. It has only one component with a very high loading (0.825). The component related to this factor is the sense of well being that patients feel in the hospital. The frequency analysis result was very interesting for this component as among the rest of components related with factor analysis three factors this is the only one where percentage of responses are negative. A total of 17.9 per cent said very bad, 23.2 per cent said bad where the total is 41.1 per cent. A total of 17.3 per cent said good, and 11.1 per cent said very bad for sense of well being in hospitals where the total is 28.4 per cent for this one. This shows that the third most important factor of patients' perception of quality in healthcare is sense of well being that patient's feel in the hospital where this has a negative image in Turkey.

6. Discussion, conclusion and implications

It was very interesting to see that the first and most important factor for people in Turkey is the quality of the hospital infrastructure and interaction. Seven out of the 39 attributes had average responses and the rest of the responses had the highest percentages as good.

When the results with average were analysed in more detailed it was seen that only one attribute had a tendency towards negative response and the rest had a tendency towards positive response This indicates that almost all of the attributes for patient satisfaction is positive in hospitals of Istanbul, which is the most developed city with the highest population when compared to other cities in Turkey. When the results of frequency analysis and factor analysis are combined, the first three factors that are the biggest concern for people being treated in hospitals in Turkey are:

- (1) the quality of infrastructure;
- (2) the quality of atmosphere; and
- (3) the quality of objective.

Table III shows most critical health care shortcomings of patient dissatisfaction (ranked as highest added percentage between bad and very bad on the Likert scale).

The biggest problem of patient satisfaction is sense of well being that you felt in the hospital. The second biggest problem is availability of visitor parking. The third problem is waiting time for tests. The fourth problem is performance of services when they were supposed to be performed. The fifth problem is speed and ease of admissions. The sixth problem is ability of sleeping accommodations for your family, the seventh problem is pleasantness and appeal of hospital room, and the eighth problem is listed as cleanliness of the hospital. The ninth problem is hospital Concern for your particular needs and the tenth most critical problem is listed as ability of the hospital to treat you the way you expected.

As one of the objectives of this research was to compare the Turkish hospitals with Kazakhstani, Jordanian and Egyptian hospitals and medical clinics, this can be done using the results above. The ten shortcomings listed in Table III were very similar with all three countries patients' responses. Availability of parking facilities for visitors,

Rank	Dimensions of 5Qs	Question	Critical percentages
1	Quality of objective No. 1	Sense of well-being that you felt in the hospital	41.1 bad and very bad 30.4 average
2	Quality of Infrastructure No. 12	Availability of visitor parking	33.5 bad and very bad 27.8 average
3	Quality of process No. 2	Waiting time for tests	32.7 bad and very bad 21.2 average
4	Quality of objective No. 5	Performance of services when they were supposed to be performed	32.5 bad and very bad 20.5 average
5	Quality of process No. 3	Speed and ease of admissions	32 bad and very bad 23.8 average
6	Quality of atmosphere No. 8	Ability of sleeping accommodations for your family	31.1 bad and very bad 28.5 average
7	Quality of atmosphere No. 9	Pleasantness and appeal of hospital room	31 bad and very bad 23.9 average
8	Quality of infrastructure No. 9	Cleanliness of the hospital	30.9 bad and very bad 19.2 average
9	Quality of objective No. 4	Hospital concern for your particular needs	30.6 bad and very bad 26.4 average
10	Quality of objective No. 2	Ability of the hospital to treat you the way you expected	30.4 bad and very bad 25.0 average

Table III.
The most critical health care shortcomings of patient dissatisfaction

pleasantness and appeal of hospital room, speed and ease of administration, ability of sleeping accommodations for family members of patients were all common specific attributes which were perceived as concerns which is a shortcoming for patient satisfaction for Kazakhstanian responses.

When the factors components were compared between Kazakhstan and Turkey results it is seen that skill of the physicians attending you, temperature of the food, professional appearance of physicians and nurses, waiting time for refund, if due, responsiveness of nurses to your needs, politeness of the physicians, politeness of the nurses, and ability of sleeping accommodations for your family are same when quality of healthcare perception is the case. Regarding the results of the research done in Jordan and Egypt the results are seen to be similar as well.

Especially the first and main shortcoming is seen to be the sense of well being that the patients feel, next comes the ability of the hospital to treat them the way they were expecting. In addition to the similar shortcomings of Turkish, Jordanian and Egyptian hospitals, skills of physicians, politeness of nurses, politeness of physicians and responsiveness of nurses to their needs were also similar when the components of the three factors of the Turkish hospitals were analysed.

A model of strategy to improve patients' satisfaction in hospitals in Turkey is to influence on admissions such as quality of infrastructure (Q3), quality of atmosphere (Q5), and quality of object (Q1), which is almost the same for the other three other countries compared.

The cure stated by Zineldin (2006) for Egyptian and Jordanian hospitals, which was then found to be also applicable to Kazakhstanian hospitals (Camgoz-Akdag and Zineldin, 2010) will also be helpful for Turkish hospitals as the most critical healthcare shortcomings, which lead to patient dissatisfaction, are almost exactly the same. The cure for improving the quality of healthcare services is achieved by applying total

relationship management (TRM) and the 5Qs model together with customer orientation strategy.

According to TRM, improvement of quality and patient satisfaction requires good atmosphere and infrastructure in form of good relationship between physicians, nurses and other hospital employees and the hospital. Every personnel related with the hospital and healthcare should be included in developing guidelines and measurement standards, which was also stated by Longo (1994).

In this study, a 5Qs model to measure the patients' satisfaction of medical care is proposed as for pervious studies for Kazakhstanian, Egyptian and Jordanian hospitals. As mentioned previously the 5Qs model encompasses technical, functional, interaction, infrastructure and the atmosphere qualities and services. The results can be used by the hospitals to reengineer and redesign creatively their quality management processes and the future direction of their more effective health care quality strategies.

This model is just a short-term initial improvement step. In order to have long-term beneficiary of these improvement the quality should be continuously measured and improved. As Turkey is a rapidly developing country which also has the youngest population in Europe the findings mentioned above should be taken into serious consideration in order to set the correct quality strategies fitting the needs, and expectations of patients.

7. Further research

This research focused on components of quality and service measurements. For a better strategy the cost measures, the system in Turkey, performance of physicians and nurses, salary distribution should also be measured in detail.

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About the authors

Hatice Camgöz-Akdağ is Assistant Professor at Kadir Has University, Istanbul, Turkey. Hatice Camgöz-Akdağ is the corresponding author and can be contacted at: haticeakdag2002@yahoo.com

Mosad Zineldin is Professor in Economics and Management at the School of Management and Economics, Växjö University, Sweden.