J Clin Res Gov, 2016, 5(1): 1-6

Swedish Science Pioneers
Developing World Journal Series
Journal of Clinical Research & Governance
www.jcrg.sciencepub.se

Research Article

Service Quality of Delivered Care for People with Asthma in Tabriz: The Patients' Perspective

Jafar Sadegh Tabrizi[a], Sahar Farahsa[b,*], Ali Taghizadieh[c], Mohamad Asghari Jafarabadi[d]

[a]Associate Professor of Health Services Management, Health Services Management Research Center, School of Management and Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran

[b]Master in Health Services Management, Health Services Management Research Center, Iranian center of excellence in health management, School of Management and Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran

[c]Associate Professor of Emergency Department, Tuberculosis and Lung Disease Research Center, Tabriz University of Medical Sciences, Tabriz, Iran

[d]Assistant Professor of Bio statistics, Department of Statistics & Epidemiology, faculty of Health, Tabriz University of Medical Sciences, Tabriz, Iran

Correspondence

Sahar Farahsa,
Master in Health Services Management,
Health Services Management
Research Center, Iranian center of
excellence in health management,
School of Management and
Medical Informatics,
Tabriz University of Medical Sciences,
Tabriz, Iran.
Email: sahar.farahsa@yahoo.com

Keywords:

Patients' perspective
Quality in health care
Service quality
Asthma

Received: 2015-10-11
Accepted: 2016-08-02

DOI: 10.13183/jcrg.v5i1.190

Abstract

Purpose: To assess the service quality of care given to patients with Asthma.

Method: A cross-sectional study was conducted among 180 patients with Asthma in a clinic using simple random sampling method in Tabriz, Iran in 2013. Service quality was calculated using: SQ=10 – (Importance ×Performance) and a verified questionnaire based on importance and performance of non-health aspects from the patients' perspective. Data were analyzed by SPSS16 statical sofrware statistical software.

Results: Of the12 aspects of care, dignity, prompt attention, safety, quality of basic amenities, communication, prevention and accessibility had the highest average performance values; but the highest service quality values were for confidentiality, dignity and choose of care provider. Participants younger than 18 years of age and those in the groups aged 19-45 had lower scores for continuity and confidentiality while participants with good control of their asthma had higher scores for these aspects ($P < 0.001$) compared with poor control.

Conclusion: From the perspective of patients with asthma, there is a notable gap between their expectations and what they have actually experienced in most non-health aspects of provided care. In addition, overall service quality was identified relatively low. Therefore this study shows an opportunity to improve service quality of care for patients with asthma.

Introduction

The modern concept of quality improvement in health care tries to stimulate providers' use of clinical practice guidelines or to help them meet performance goals against data from performance measures. A good healthcare system delivers high quality care to all people, when and where they need them. Population aging, increasing costs of healthcare and the growing burden of chronic disease are challenges to health systems worldwide. To meet these challenges will require new approaches to healthcare delivery and comprehensive quality of healthcare [1]. The Institute of Medicine defines healthcare quality as "the extent to which health services provided to individuals and patient improve desired health outcomes." [2] During the past decade efforts to improve quality of care for asthma have been introduced as a part of more important efforts to improve care across health conditions [3].

Asthma is a major chronic disease characterized by recurrent attacks of breathlessness and wheezing, which vary in severity and frequency from person to person. There has been a sharp increase in the global prevalence, morbidity, mortality and economic burden associated with asthma over the last 40 years, particularly in children [4]. In 2004, the Global Initiative for

Asthma (GINA) generated global estimates of asthma burden. This report projected that 300 million people worldwide had asthma, and this number would increase to 400 million by 2025, due to the countries' urbanization [5]. The global burden for patients from exacerbations and day-to-day symptoms has increased by almost 30% in the past 20 years. It is estimated that the prevalence of asthma increases by 50% every decade [6]. According to a meta-analysis on the results of eligible studies overall prevalence of asthma symptoms in Iran is 5.5 % [7].

For improving the quality of delivered care for chronic illnesses as well as asthma, first it should be measured and evaluated. Different approaches can be used for evaluate and assessing the quality.

Based on the CQMH model (Comprehensive Quality Measurement in Health care), which first introduced by Tabrizi et al in 2009, three principal components which are related to quality of care are technical, service and customer [8]. Technical quality is the clinical part of a care based on evidence-based guidelines which is mostly related to the health care providers' knowledge and experiences. Customer quality expresses the attributes of patients which enable them to participate more effectively in health care processes and decision making to manage successfully their own conditions [9]. Service quality is the non-clinical part of the care and reflects the patient's experiences of the healthcare system, including relationships between patients and care providers, health system facilities and the environment in which care is provided. Service quality could affect directly overall quality of care experienced by patients [10]. Perceptions of what is quality of care are linked to expectations and are likely to differ from system to system, region to region and even person to person. In addition, Service quality from the patients' perspective reflects their values and personal experiences of care services [10, 11]. For measuring the quality of care provided by a health system, it is important to consider all the aspects of it. Improving quality of care for asthma is not only important for patients with asthma but also for health care policymakers, managers and providers. So, we have applied care for asthma as an example of a high priority common chronic disease in order to develop and demonstrate the usefulness of a model of quality in health care. The present study was designed to assess the service quality of delivered care from the perspective of patients with asthma in Tabriz, Iran.

Methods

A cross-sectional survey was conducted in Tabriz, Iran in 2012. Participants were randomly selected from patients who came to University especially medical clinic affiliated to Tabriz University of Medical Science. Eligible participants were patients with asthma which their diagnosis was at least one year before the participation in this study. They were over 12 years of age and received care from clinic regularly. Some of the respondents have been receiving care for more than one year. Patients who were unable to complete the questionnaire or who didn`t want to complete, were excluded from the study. In some cases (for example younger patients or very old patients), parents or another family member or someone who accompanied the patient during the treatment, responded our questionnaire. Of the 200 patients with asthma who came to the clinic, 180 patients (or their family members if necessary) responded the questionnaire (90%).

A structured questionnaire was used to assess the importance and performance score for 12 aspects of SQ, demographic information, clinical history and tobacco smoking.

The questions to assess SQ were adapted from a validated CQMH_SQ (Comprehensive Quality Measurement in Health_ Services Quality) questionnaire developed by Tabrizi et al [8, 10]. Validity of the study questionnaire was reviewed and confirmed by 12 experts in Tabriz and University of medical sciences using content validity and researchers modified some questions based on their comments and the local conditions and did not exclude any question. Also reliability of the questionnaire was confirmed according to Cronbach's alpha index (α=0.866), based on a pilot study by participate of 30 patients.

For each aspect of SQ, respondents were asked to evaluate the Importance of that aspect and their perception of the quality of care they had received in relation to that aspect (Performance). Importance of SQ was scored on a four point Likert scale ranging from "0 = Not Important", "3 = May be Important", "6 = Important" and "10 = Very Important". Perceived performance of care received was scored on a four point scale ranged from "never, sometimes, usually and always" or "poor, fair, good and excellent". For analysis this scale was dichotomized as: "0 = Usually/Always or Good/Excellent" and "1 = Never/ Some-times or Poor/Fair". An overall measure of SQ, was calculated for each SQ aspects by combining the *importance* and *performance* scores using the Netherlands Institute for Health Services Research methodology [12]. SQ of care for each quality aspect was calculated as: *Service Quality = 10 − (Importance × Performance)*. The SQ score then ranged from 0 = the worse/ lowest quality to 10 = the best/highest quality. In most surveys, regardless of methodology, around 10% of the population reported inadequate quality of the care [8, 12] and a similar percentage report being dissatisfied with care in hospitals. So, according to this fact in this study SQ score less than 9 indicates weakness and a significant opportunity for improvement.

For comparing the SQ score between categorical variables Independent Samples *t*-test and ANOVA were conducted. General linear model (GLM) was used for multivariate analyses. Statistical analyses were carried out using SPSS software version 13.P-values $\leq$ 0.05 were considered as statistically significant level.

Results

The majority of the patients were women (55%), between the age 19-45 (55%), living in major cities (58.3%) and hadn`t a history of smoking (83.3%). About 50% of the patients did not complete high school. Nearly half of them had a job and most of them held health insurance (Table 1).

Based on patients opinion, most of them (75.4%) had well-controlled asthma and asthma duration for 49.4% of patients was between 1-3 years. The majority of the patients (88.3%) took medical therapy and only 11% of them received both medical and life style therapy. The majority of the patients (97.8%) had not asthma complications (Table 2).

Scores for importance, performance and service quality are shown in Table 3. The aspects that had the highest score for importance (>8.00) were dignity, prompt attention, safety, quality of basic amenities, communication, prevention and accessibility.

Confidentiality, dignity and choose of care provider had the best average performance score (≤0.10) and also the highest quality scores were for confidentiality and dignity aspects (>9.00).

Using one-way ANOVA analysis for overall Service Quality, there was no statistically significant differences between the scores and age groups (P-value>0.05). Also using independent T-Test there was no statistically significant difference between SQ score and asthma status (P-value>0.05) (Table 4).

Relationship between age groups and asthma control status were tested for significance using general linear model for each aspects of the SQ. Statistically significant differences for several aspects were found among age groups and asthma control statuses. Patients younger than 18 years of age and those in the groups aged 19-45 years reported lower service quality scores than those in the groups aged 46-65 years and over 66 years for continuity and confidentiality. In addition, quality scores were significantly higher for well controlled patients compared with poorly and average controlled patients for continuity and confidentiality (Table 5).

Table 1. Characteristics of study patients with Asthma.

Characteristics		Number	Percent
Sex	Male	81	45
	Female	99	55
Age	12-18	13	7.2
	19-45	99	55
	46-65	60	33.3
	≥66	8	4.4
Residential areas	Major city	147	81.3
	Outer region	33	18.3
History of smoking	Yes	30	16.7
	No	150	83.3
Education status	Elementary school	37	20.6
	Some high school	79	43.8
	Completed high school	43	23.9
	University	8	4.4
		21	11.7
Employment status	Employed	87	48.3
	Unemployed or retired	15	8.3
	Housewife	78	43.3
Health insurance	Yes	170	94.4
	No	10	5.6

Table 2. Asthma status, treatment and complications.

Characteristics	Number (Percent)
Asthma status	
Poorly-controlled	17 (9.5)
Average- controlled	27 (15)
Well- controlled	136 (75.4)
Duration	
1-3	89 (49.4)
3-5	36 (20)
≥5	55 (30.6)
Treatment	
Medical therapy	159 (88.3)
Lifestyle therapy	0 (0)
Both medical and lifestyle therapy	21 (11.7)
Complications	
Yes	3 (1.7)
No	176 (97.8)

Discussion

In this study service quality of health care was assessed from the perspective of patients with asthma. The overall score for SQ was 7.69 which in comparison with our criterion score (9) was low.

Table 3. Importance, performance and service quality scores for patients with asthma.

Service quality aspects	Importance[1]	Performance[2]	Service Quality[3]
Overall service quality	8.18	0.28	7.69
Choose of care provider	7.65	0.26	8.23
Communication	8.55	0.26	8.23
Autonomy	6.79	0.35	8.46
Continuity	7.8	0.18	8.71
Quality of basic amenities	8.7	0.18	8.42
Support group	7.6	0.9	3.63
Dignity	9.29	0.11	9.06
Timeliness/prompt attention	8.89	0.44	6.13
Prevention/early detection	8.48	0.29	6.13
Accessibility	8.42	0.29	7.63
Confidentiality	7.9	0.01	9.93
Safety	8.7	0.27	7.64

[1]: Range between 0 (not important) and 10 (very important), [2]: Range between 0 (good) and 1 (poor), [3]: Range between 0 (worst) and 10 (best)

Table 4. Relationship between age and asthma control with overall SQ*.

Characteristics	Average score	P-value
Age		
≥66	8.41	0.416
46-65	7.69	
19-45	7.62	
≤18	7.84	
Asthma status		
Poorly-controlled	7.35	0.51
Average- controlled	7.65	
Well- controlled	7.74	

*: Service quality

Table 5. SQ aspects score from the patient`s perspective by age group and asthma control.

SQ aspects	Age				Asthma control		
	≥66	46-65	19-45	≤18	Poorly control	Average control	well control
Choose of care provider	9.58	9.31	9.34	8.48	9.41	9.37	9.25
Communication	8.97	8.04	8.30	8.21	7.87	7.88	8.35
Autonomy	9.71	8.60	8.24	8.76	7.83	8.49	8.55
Continuity	9.20	9.21	8.58*	7.12*	6.78	8.80	8.94*
Quality of basic amenities	10.00	8.24	8.27	9.39	7.50	8.84	8.51
Support group	5.00	2.98	3.81	4.44	2.58	3.54	3.78
Dignity	10.00	8.68	9.17	9.38	8.82	9.49	9.00
Timeliness/prompt attention	5.87	6.11	6.17	6.05	6.25	5.61	5.96
Prevention/early detection	7.66	7.77	7.53	7.69	7.48	7.66	8.76
Accessibility	7.50	7.43	7.24	7.07	7.39	6.93	7.13
Confidentiality	10.00	9.93	9.89*	9.25*	10.00	9.47	9.81*

*$P < 0.05$

Confidentiality, choose of care provider and dignity were the aspects with the highest service quality scores. Confidentiality which expresses the truthfulness of care providers and assuring that patients related information and their medical documents are being kept secret, reached the highest score (9.93) which indicate the high importance of this aspect from the patients perspective and also good performance of clinic in this area.

Dignity also indicates providing care in a non-discrimination situation with full respect to the needs, expectations, personal differences and also privacy of patients which the quality score for this aspect was good (9.06).

Our findings aren't inconsistent with findings by Bismarck et al. They had conducted a study in 5 countries: America, Canada, England, Italy and Germany based on an online questionnaire and assessed asthmatic patients' experiences and perspective about healthcare which they received. The overall Service quality scores (based on Likert scale ranging from 1 as weak quality up to 6 as good quality) in America and England was 3.9, in Canada was 4 and in Germany and Italy was 3.4. Service quality in these countries was considered as relatively good quality. But as like our findings the quality of dignity and confidentiality was good in these countries [13].

Choose of care provider refers patients being free to choose between care providers. This aspect was rated as a good quality score in our study (9.28) which is inconsistent with the scores in America and Canada. But this aspect had low quality score in the three other countries [13].

The findings of the present study show that some service quality aspects need to be improved for people with asthma. The service quality was lowest for the support groups (3.63) and prompt attention [6, 13].

Patients reported that there had never been established any support groups consisted of patients with a similar conditions, specialists and nutritionists. Such a group and structure can play an important role in supporting and helping patients by providing essential information about treatment programs and special diet [11]. Most of the patients don't consider asthma as a serious health problem that may lead to death. So in the support groups patients are trained about how to control their asthma and they can share their experiences. According to the findings of a study which was done in Taiwan, the importance of group activities was more than individual ones from the patients' perspective [14]. Unlike our findings, in the Bismarck 's study support group received good quality in all five countries [13].

Patients' perspective is mostly considered as patient satisfaction and in the different studies which were done about quality of care from the patient perspective, satisfaction was one of the quality indicators. One of the important aspects which can lead to patient dissatisfaction is waiting time [15]. This aspect in our study was prompt attention which had low score and patients were more dissatisfied. This aspect in the America and Canada was good from the patient perspective, but was weak in the three other countries. Our finding of low service quality for timeliness is inconsistent with findings by Koning et al. In their study 90 percent of the patient with asthma were dissatisfied with long waiting time and inadequate information which they received from care providers [16].

The finding of the present study shows, dignity and prompt attention were the most important aspects from the patients' perspective. A study of similarities and differences in patients' preferences in twelve European countries found that participants valued the aspects which they had experienced less. For example if the waiting time for receiving a service is low, people are less concern about this aspect [17]. So in the present study it seems that as patients waited more in this clinic and they expected better contact especially from workers and receptionists, these aspects had been more important for them.

Autonomy was the most unimportant aspect which was rated as a low quality score in our study. Autonomy is defined as the right of patients to be involved in making decision about their own health and treatment [18]. Most of the patients claimed that they receive enough information and accept whatever their doctor decides, so they don't need to be involved in treatment process.

Our result was inconsistent with the study of Adams et al which assessed the perception of patients with asthma about their participation in their treatment process. That study found that patients are less likely to participate in making decision and they most emphasized on doctor`s role as the main decision maker [19]. While evidence suggests that participating patients

in their care process especially for chronic disease, can lead to better outcomes like improving quality of life, increasing satisfaction and decreasing long of stay in hospitals [20].

Service Quality score for "communication" that refers to relationship between patient and providers and providing the clear information by care providers [8], was relatively low. This finding is consistent with findings by Lindberg and colleagues. Their participants (with respiratory problems) noted that they need more information about their diseases. They were dissatisfied with the restricted time for consultation, lack of time to answer their questions and effectively dealing with their concerns. That study suggested that when patients feel doctors pay more attention to them and give more information during visit time, they are more likely to follow their medication therapy and satisfied. They were more concerned about enough information about asthma, its symptoms and signs and allergens [21].

Patients' perspectives on quality of delivered care can differ in terms of individual differences in areas including socio-economic, demographic and cultural status, disease status and patients' attitude and behavior [22]. In the present study, patients' perception varied by their age and asthma control status. Thus, compared with patients who reported poor control of asthma, well controlled patients were more likely to report high quality of care for continuity and confidentiality. Patients younger than 18 years of age and those in the groups aged 19-45 had lower scores for continuity and confidentiality while patients with good control had higher scores. The result of a study done by Makson also showed significant relationship between asthma control status and patients dissatisfaction. The rate of dissatisfaction for patients who did not have problem in controlling their asthma was 16% while this rate for patients with poor control of asthma was 75% [23].

In conclusion, our results suggest that, for patients with asthma, there is a notable gap between their expectations and their experience in most aspects of provided care. Service quality for support groups and prompt attention was very low and relatively low for accessibility, prevention, safety, communication, quality of basic amenities and autonomy. Therefore the health systems especially care providers, hospital, clinics and health organization managers should be aware of patients view point in this study and they must have specific quality improvement programs for delivering high quality care for patients with asthma. Patients with asthma could be more satisfied with the healthcare system if they were able to increase their knowledge and awareness about provided care, care facilities and care providers. There is also scope to improve the relationship between care providers and patients with asthma.

Acknowledgments

This study was based on a thesis of Bachelor Degree. We would like sincerely thank all patients' participation. Furthermore, we appreciate all the workers of clinics for their facilities and helps in this study.

Ethical issues

This study was approved by the Ethics Committee of the Tabriz University of medical science.

Conflict of interest

None to declare.

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