



Research Article

Patient's Perception and Experience of Service Quality in Endoscopic Ward: Imam Reza Hospital – Tabriz 2013

Jafar Sadegh Tabrizi^a, Mohammad-Hossein Somi^b, Kamal Gholipour^b, Shabnam Iezadi^c, Azad Shokri^d, Sina Nasiri^e

^aTabriz Health Service Management Research Center, Department of Health Service Management, Faculty of Health Service Management and Medical Informatics, Tabriz, University of Medical Sciences, Tabriz, Iran,

^bDepartment of Health Service Management, Faculty of Health Service Management and Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran,

^cIranian Center of Excellence in Health Management, Tabriz, Iran

^dHospitals Management Research Center, Iran University of Medical Science, Tehran, Iran

^eDepartment of Health Service Management, Faculty of Management and Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran

Correspondence

Jafar Sadegh Tabrizi,
Department of Health Service
Management, Faculty of Health Service
Management and Medical Informatics,
Tabriz University of Medical Sciences,
Tabriz, Iran, 09144085420
Email: js.tabrizi@gmail.com

Keywords:

*Service quality
Endoscopic ward
Patients' perception
Patients' exception*

Received: 2014-05-09

Accepted: 2015-2-10

DOI: [10.13183/jcrg.v4i2.127](https://doi.org/10.13183/jcrg.v4i2.127)

Abstract

Porpuse: To determine the service quality of delivered care for people who undergoing endoscopic procedures.

Methods: A cross-sectional study is conducted on 172 patients admitted to the endoscopy ward of Imam Reza Hospital, Tabriz University of Medical Sciences in 2013. Service quality is obtained through: Service Quality = 10 - (Importance × Performance) based on the importance, performance and service quality (SQ) with respect to the patients' perspective. Independent T-test and one-way analysis of variance are applied to investigate the correlation between service quality dimensions and categorical variables. Regression analysis is applied to examine the associations between demographics and SQ scores. Data is analysed using the SPSS-17 software.

Results: The average scores of importance, performance and SQ of delivered care according to SQ aspects are 6.45, 0.41 and 7.53, respectively from 10 (the top score). The quality of basic amenities and the choice of care provider gained the highest SQ scores. Communication, Safety, Dignity and Autonomy gained poor SQ score. Females in comparison to males with respect to variances in variables of age and health insurance had a 0.47 less score with respect to service quality.

Conclusion: Increasing the patients' knowledge and awareness about the provided care, care facilities and care providers and prepare them to participate in care process contribute to quality improvement strategy.

©2015 Swedish Science Pioneers, All rights reserved.

Introduction

The functional gastrointestinal disorders (FGIDs) are the heterogeneous groups of chronic conditions detrimental to public health because they are remarkably common and can be disabling, something that can induce a major social and economic burden [1]. Advances in therapeutic endoscopy and minimally invasive surgery over the last decade have led to a convergence of techniques available for the treatment of a number of these conditions [2]. Endoscopic surgery uses scopes inserted through small incisions or natural body openings in order to diagnose and treat this disease. Endoscopy is a method of examining the interior of a body cavity or hollow organ (e.g., esophagus, stomach) using an endoscope, a narrow, flexible fiber optic instrument [3].

Service quality has become increasingly important in today's business, particularly in high-customer involvement industries such as healthcare. This parameter is essential in marketing and service applications. It is vital that the organization realize the manner by which quality initiatives contribute to all dimensions of SQ [4]. The American Society for Gastrointestinal Endoscopy (ASGE) and the American College of Gastroenterology (ACG) have recently established practical quality measures to grade and rank endoscopy performance. These possible measures can be applied to distinguish high-quality endoscopic procedures adopted by an adequately trained endoscopy technician [5]. According to results of Rosenfeld regarding the effect of patient training with respect to preparation for bowel colonoscopy

contributes to the positive effect in awareness of the patient and the outcome of the treatment. The results of this study suggest that incorporation of patient education and training regarding bowel preparation would help improve the overall adequacy and quality treatment [6]. According to Velayos 80% of patients were pre-informed by their physicians and almost all were aware of the situation through mass media. According studies conducted by Romagnuolo using a one page checklist which includes all the data regarding the nutrition and medical diet and the discharge schedule would affect the patient's stay duration in the hospital from 7 days to 3.5 days [7]. Mik Wisniewski (2001) conducted a study to determine apply the SERVQUAL measurement instrument in a Scottish colposcopy clinic. It does appear that the SERVQUAL instrument has a useful diagnostic role to play in assessing and monitoring SQ in nursing by enabling the nursing staff to identify where improvements are needed from the patients' perspective [8]. Lorentzon suggested that focusing on the indexes like waiting time in the outpatient departments and relying on some qualitative aspects can be highly essential for the patient [9]. The patients no longer see themselves as passive recipients of care; they welcome a more closed dialogue with health care staff [10], since studies suggest that patients' views on care are a valuable tool for quality improvement and for making health care more responsive to patients' needs [11]. The objective of this study is to assess the SQ in Endoscopic Ward of Imam Reza hospital – Tabriz.

Methods

This is a cross-sectional study conducted on 172 patients admitted to endoscopy ward of Imam Reza Hospital, Tabriz University of Medical Sciences in 2013. Sampling was conducted on the patients who were present on the sampling scheduled days in the clinic from January to December 2013 included in study.

The SQ is measured through the CQM_H_SQ questionnaire filled by patients who undergo endoscopic procedures [12]. Validity of this questionnaire is reviewed and verified by 10 experts in Tabriz University, Medical Sciences and its reliability is confirmed by Cronbach's alpha index ($\alpha = 0.862$), based on a pilot study conducted on 30 patients.

For each aspect of service quality, respondents are 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) over the past year. The importance of SQ is ranked on a four-point Likert scale, which is then scaled from 1 to 10 where, 0 = not important, 3 = may be important, 6 = important and 10 = very important. The perceived performance of care is ranked on a four-point scale ranging from 'never, sometimes, usually and always' or 'poor, fair, good and excellent'. For analysis, this scale is dichotomized where: 0= usually/always and good/excellent and 1 = never/sometimes or poor/fair. An overall measure of SQ is calculated for each one of the SQ factor by combining the importance and performance scores using the Netherlands Institute for Health Services Research methodology [13]. Service quality of care for each quality aspect is calculated as:

$$\text{Service quality} = 10 - (\text{importance} \times \text{performance})$$

According to previous studies, SQ score of less than 9 indicates a failure in quality of care, that is, a big default to be

corrected. Frequencies and percentages are used in describing the demographic information of patients with rheumatoid arthritis and mean values (standard deviation) are applied to report SQ scores and its dimensions. A linear regression analysis is applied in two steps by adopting the enter method. Variables found to be associated with SQ in the univariate analysis are included in the multivariate regression model. The p-values for entry and removal variables in the stepwise regression model are 0.05 and 0.15, respectively. Data is analyzed through the SPSS-17 statistical package (SPSS, Chicago, IL, USA). Hence, the P values ≤ 0.05 are considered as statistically significant.

Result

Our findings indicate more than 57% of participants were male, so great parts of participant were homemaker and retired. Less than half of participants resided in Tabriz and others live in other cities. Eighteen percent of respondent were illiterate and only 30% have had academic education. The great part of participants (38%) referred to this endoscopy unit due to gastric problems and after that near the 30% of them referred to diagnostic purpose (Table 1).

The average scores for importance, performance and service quality of delivered care according to SQ aspects were 6.45, 0.41 and 7.53 respectively. Study finding indicate quality of basic amenities had the best score for performance and then there is choice of care provider, confidentiality and support group. Prevention and early detection, prompt attention, Safety and communication had the highest score for importance. Quality of basic amenities and choice of care provider achieved the highest SQ scores. Total SQ score is 7.53 (1.31) and we demonstrated which aspects of SQ took a weak score in total Service Quality for people with Rheumatoid arthritis (Table 2).

1. Importance score: Range between 0 (not important) and 10 (very important)
2. Performance score: Range between 0 (good) and 1 (poor)
3. Service Quality score: Range between 0 (worst) and 10 (best).

Using univariate analysis for overall service quality, only statistically significant difference was found for service quality score by gender ($P=0.008$). Finally, multiple regression analysis showed that gender was significantly and independently related to SQ score. So that female report service quality score 0.47 unit lower than male by adjusting to health insurance and age ($p=0.021$). According to study findings there are no statistically association between SQ score and other demographics (Table 3).

Discussion

In this study the overall SQ score from the patients' perspective on endoscopic ward of Imam Reza hospital is 7.53 from 10, indicating that the SQ score is relatively low compared to considered standards [12]. According to the findings here, some aspects of SQ such as: "Basic amenities" and "Choice of care provider" have the highest (9 score) and "Continuity", "Prevention/early detection", "Prompt attention" and "Accessibility" have the lowest scores (6 score). Based on the service quality score, patients here are less concerned with Support group and Confidentiality while reporting inadequate quality with respect to other aspect as, Communication, Safety, Dignity and Autonomy.

Table 1. Characteristics of study participants.

Characteristics	Number	Percent
Gender		
Male	99	57.6
Female	73	42.4
Occupational status		
Employee	26	15.1
Technical worker	45	26.2
Home maker	50	29.1
Retired	33	19.2
Other	8	4.7
Age		
< 25	14	8.1
25-45	65	37.8
45-65	53	30.8
> 65	40	23.3
Marital Status		
Single	26	15.1
Married	138	80.2
Widow	8	4.7
Residential locality		
Resided in Tabriz	80	46.5
Resided in provience	56	32.6
Neighboring provinces	36	20.9
Education status		
Illiterate	31	18.0
Primary school	24	14.0
Mid and high school	64	37.2
Completed high school or University	53	30.8
Continuous care by specialist		
Yes	3	1.7
No	169	98.3
Type of health insurance		
Medical Service	77	44.8
Social security	49	28.5
Rural	21	12.2
Other	14	8.1
Uninsured	11	6.4
Cause for endoscopy		
Gastric problems	65	38.0
Intestinal problems	31	18.1
Diagnostic	51	29.8
Disease Control	24	14.0

The high service quality score for choice of care provider here indicates that most patients reported that they are free to choose between services providers, including general practitioners and specialists. Moreover, this issue indicates that the patients are highly satisfied with their ability to choose their care provider as a result of sufficient information. This aspect is a serious concern in Tabrizi et al [14, 15] studies. The high score for choice of care provider indicates that not only participants in this study are valued highly but in reality they had a good choice of

Table 2. Importance, performance and SQ scores for quality aspects (N=172).

Service quality aspects	Average Score					
	I ¹		P ²		SQ ³	
	Mean	SD	Mean	SD	Mean	SD
Choice of care provider	6.57	2.51	0.14	0.30	9.25	1.63
Communication	7.00	2.41	0.45	0.36	7.01	2.96
Autonomy	6.14	2.63	0.44	0.47	7.80	2.90
Continuity	4.25	3.38	0.94	0.24	6.06	3.41
Support group	6.67	2.32	0.26	0.28	8.50	1.97
Quality of basic amenities	6.33	2.44	0.05	0.17	9.60	1.46
Dignity	6.75	2.59	0.39	0.36	7.57	2.92
Prompt attention	7.50	2.72	0.43	0.26	6.60	2.52
Safety	7.31	2.64	0.41	0.46	7.49	3.24
Prevention/early detection	7.65	2.72	0.55	0.49	6.15	4.07
Accessibility	5.99	2.20	0.42	0.31	6.65	2.83
Confidentiality	3.95	4.08	0.20	0.40	8.83	2.91
Overall service quality	6.45	1.59	0.41	0.18	7.53	1.31

1. Importance score: Range between 0 (not important) and 10 (very important), 2. Performance score: Range between 0 (good) and 1 (poor), 3. Service Quality score: Range between 0 (worst) and 10 (best)

selecting their physicians. Basic amenities related to cleanliness, comfortable chairs, sufficient ventilation, cold water and clean toilets [12], are appreciated by the patients.

Prevention and early detection are the important aspects in high quality services delivery and this aspect contain services that prevent complications [16]. In this respect, although the endoscopic screening failed to document survival benefits, early detection of hypo pharyngeal cancer has yielded a significantly higher rate of larynx preservation, which may have contributed to improving the quality of life in these patients [17]. Considering the low score of prevention the patients' perspective indicates that the patients probably did not receive enough information relating to risk prevention, a more important for them. Low scores regarding prevention may reveal the necessity to have access to guidelines for distinguishing high quality endoscopic involvement from the low quality. Availability of such guidelines makes it possible to compare the data of the patients for reporting the necessary issues for future comparisons [18]. Johnston et al found that although, clinicians considered the patients consent based on their awareness as a necessity using an awareness process specific to endoscopy services is essential as well [3].

Endoscopy triage and wait-time management should be related to consensus on medically acceptable wait time for health problems. The practice of gastrointestinal endoscopy is facing a crisis. There is a decreasing reimbursement for endoscopic procedures in the face of increasing demand [19]. Participants in this study are concerned with timeliness. In this respect, some participants are dissatisfied due to overcrowding of patients in clinics, and long waiting time for appointments, so this finding is in a good agreement with that of the results in [20]. It must be considered that the patient's characteristics can contribute to their satisfaction in the treatment since they can be applied in their curative and care programs [21]. Based on the indexes published by the British Society of Gastroenterology endoscopic services of the upper GI endoscopy the skills of the operator as

Table 3. Results of linear regression analysis for variables related to total service quality score (n=172).

Characteristics	No	Unadjusted			
		B	S.E.	Beta	P value
Health insurance					
No*	11				
Yes	161	-0.641	0.407	-0.120	0.118
Gender					
Male*	99				
Female	73	-0.533	0.199	-0.201	0.008
Continuous care by specialist					
No*	127				
Yes	45	0.099	0.228	0.033	0.665
Marital Status					
Single*	26				
Married	146	0.148	0.280	0.041	0.597
Language					
Turkish	148				
Other*	24	-0.173	0.289	-0.046	0.551
Age					
< 25*	14				
25-45	65	0.389	0.385	0.144	0.313
45-65	53	0.290	0.393	0.102	0.461
> 65	40	0.759	0.406	0.245	0.063
Cause for Endoscopy					
Gastric problems	65	0.339	0.315	0.125	0.284
Intestinal problems	31	0.365	0.359	0.107	0.310
Diagnostic	51	0.167	0.327	0.058	0.610
Disease Control*	24				
Education					
Illiterate	31				
Primary, Mid and high school	88	-0.061	0.276	-0.023	0.825
Completed high school or University*	53	-0.004	0.299	-0.002	0.988

Dependent Variable: Total SQ. *Reference category

an indicating factor in the service quality is of essence [22]. In a study conducted by Hussain on 3538 patients who underwent a colonoscopy procedure, the following issues were identified: poor bowel preparation (29.36%), patient discomfort (21.27%), loopy colon (16.8%), pathology encountered (12.21%), narrow lumen (9%) and instrument failure (0.63%) [23].

It is important that patients are served in a timely fashion and leave the facility with clear discharge instructions, given either to them or to family members, which include information about potential complication and contact details. A follow up contact number should preferably be available on 24 h basis at an office, facility, or emergency service center [24]. In general, patients should receive clear instructions regarding the follow up process [24].

Endoscopy procedures should be available to everyone, while in this study this condition was not observed; hence, it is recommended that the Health Care System authorities improve the conditions for this purpose [24]. It is obvious that there are certain aspects regarding the treatment quality which are beyond

the medical centers' capabilities, therefore they must be taken care of through the National Health Care System.

According to the findings here, SQ score is relatively low in Endoscopic Ward of Imam Reza hospital. These findings can assist the decision makers in diagnosing the weaknesses as well as the priorities with respect to improving the provided quality services: "Continuity", "Prevention/Early Detection", "Prompt Attention" and "Accessibility". This study suggests that it is essential for Endoscopic Ward of Imam Reza hospital to adopt available guidance to prepare patients for the care process, establishing daily inpatient care in order to promote continuity, early detection and prompt attention. Patients undergoing endoscopic procedures might be more satisfied with the health services, particularly hospitals, provided that the patients are informed and aware of the conditions regarding provided care, care facilities, care providers, and be prepared to participate in care process.

References

- Tally NJ. Functional gastrointestinal disorders as a public health Problem. *Neurogastroenterol Motil.* 2008;20 (Suppl):121-9.
- Arulampalam T, Paterson-Brown S, Morris A, Parker M. Natural Orifice Transluminal Endoscopic Surgery Consensus Statement. *Ann R Coll Surg Engl.* 2009;91(6):456-9.
- Johnston S, Hamilton-Grey L, Looseley A. Informed consent for endoscopic procedures; improving a UK hospital's current practice through completed audit. *The Online Journal of Clinical Audits.* 2009;1(1):2-6.
- Punnakitikashem P, Buavaporn N, Maluesri P, Leelartapin K, editors. Health Care Service Quality: Case Example of a Hospital with Lean Implementation. POMS 23 rd Annual Conference; 2012; Chicago, Illinois, USA.
- Eckert LD, Short MW, Domagalski JE, Jaboori KA, Short PA. Assessing colonoscopy training outcomes using quality indicators. *Journal of graduate medical education.* 2009;1(1):89-92.
- Rosenfeld G, Krygier D, Enns RA, Singham J, Wiesinger H, Bressler B. The impact of patient education on the quality of inpatient bowel preparation for colonoscopy. *Can J Gastroenterol.* 2010 24(9):543-6.
- Romagnuolo J, Flemons WW, Perkins L, Lutz L, Jamieson PC, Hiscock CA, et al. Post-endoscopy checklist reduces length of stay for non-variceal upper gastrointestinal bleeding. *Int J Qual Health Care.* 2005 17(3):249-54.
- Wisniewski M. Using SERVQUAL to assess customer satisfaction with public sector services. *Managing Service Quality.* 2001;11(6):380-8.
- Lorentzon M, Salisbury C, Bruster S, Weston D. Listening to patients in the National Health Service: a selective review of literature on patients' views about outpatient services in British hospitals. *J Nurs Manag.* 1996 4(3):163-9.
- Mäkeläinen P, Vehviläinen-Julkunen K, Pietilä A. Rheumatoid arthritis patients' knowledge of the disease and its treatments: A descriptive study. *Musculoskeletal care.* 2009;7(1):31-44.
- Jacobi CE, Boshuizen HC, Rupp I, Dinant HJ, Van Den Bos GA. Quality of rheumatoid arthritis care: the patient's perspective. *International Journal for Quality in health care.* 2004;16(1):73-81.
- Tabrizi JS, O'Rourke PK, Wilson AJ, Coyne ET. Clinical care and

- delivery service quality for type 2 diabetes in australia: the patient perspective. *Diabetic Med.* 2008;25:612-7.
13. van der Eijk I, Sixma H, Smeets T, Veloso F, Odes S, Montague S, et al. Quality of health care in inflammatory bowel disease: development of a reliable questionnaire (QUOTE-IBD) and first results. *Am J Gastroenterol.* 2001;96:3329-36.
 14. Tabrizi JS, Alipour R, GHolipour K, Mohammadzadeh M. Quality of maternal care from the perspective of pregnant women. *Health Promotion Perspective.* 2011;1(supplement):289.
 15. Tabrizi JS, Wilson AJ, Coyne ET, O'Rourke PK. Clients' perspective on service quality for type 2 diabetes in Australia. *Australian and New Zealand journal of public health.* 2007;31(6):511-5.
 16. Combe B. Early rheumatoid arthritis: strategies for prevention and management. *Best Pract Res Clin Rheumatol.* 2007;21(1):27-42.
 17. Watanabe A, Hosokawa M, Taniguchi M, Tsujie H, Sasaki S. Impact of endoscopic screening on early detection of hypopharyngeal cancer. *Head & neck.* 2006;28(4):350-4.
 18. Calderwood AH, Jacobson BC. Colonoscopy quality: metrics and implementation. *Gastroenterology Clinics of North America.* 2013;42(3):599-618.
 19. Bjorkman DJ, Popp Jr JW. Measuring the quality of endoscopy. *Gastrointestinal endoscopy.* 2006;63(4):864-5.
 20. Feldman DE, Bernatsky S, Haggerty J, Leffondre K, Tousignant P, Roy Y, et al. Delay in consultation with specialists for persons with suspected new-onset rheumatoid arthritis: A population-based study. *Arthritis Care & Research.* 2007;57(8):1419-25.
 21. wali A, Shetty A, Bhat G, Shetty S, Bhandar S, Hegde MN. Evaluation of patient preference for single-visit v/s multiple visit endodontic treatment. *The Online Journal of Clinical Audits.* 2013;5(4).
 22. Upper GI endoscopy service: Commissioning guide implementing NICE guidance. National Institute for Clinical Excellence; 2007.
 23. Hussain A. Colonoscopy completion rates. Potential improvement and financial savings for the NHS. *The Online Journal of Clinical Audits.* 2013;5(4).
 24. MacIntosh D, Dubé C, Hollingworth R, van Zanten SV, Daniels S, Ghattas G. The endoscopy Global Rating Scale–Canada: Development and implementation of a quality improvement tool. *Canadian journal of gastroenterology.* 2013;27(2):74-82.