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ORIGINAL PAPER

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THE EFFECT OF OUTPATIENT SERVICE QUALITY ON PATIENT SATISFACTION IN TEACHING HOSPITALS IN IRAN

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ABSTRACT

Aim: The quality of services plays a primary role in achieving patient satisfaction. The main purpose of this study was to explore the effect of outpatient service quality on patient satisfaction in teaching hospitals in Iran. **Methods:** this cross-sectional study was conducted in 2014. The study sample included 500 patients were selected with systematic random method from the outpatient departments (clinics) of four teaching hospitals in Tehran. The survey instrument was a questionnaire consisted of 44 items, which were confirmed its reliability and validity. The data were analyzed by using descriptive statistics, Pearson's correlation, and multivariate regression methods with the SPSS.18 software. **Results:** According to the findings of this study, the majority of patients had a positive experience in the outpatient departments of the teaching hospitals and thus evaluated the services as good. Perceived service costs, physician consultation, physical environment, and information to patient were found to be the most important determinants of outpatient satisfaction. **Conclusion:** The results suggest that improving the quality of consultation, providing information to the patients during examination and consultation, creating value for patients by reducing costs or improving service quality, and enhancing the physical environment quality of the clinic can be regarded as effective strategies for the management of teaching hospitals toward increasing outpatient satisfaction.

Key words: Service Quality, Patient Satisfaction, Outpatient Services.**1. INTRODUCTION**

Patient satisfaction is one of the most important and widely used indicators in measuring health care quality and outcomes (1-3). In recent years, there has been a growing interest in assessing patient satisfaction to identify care dimensions requiring improvement (1). According to the American College of Healthcare Executives, patient satisfaction is one of the top 10 concerns of hospital administrators (1) and has now become a standard for judging the quality of physicians and medical institutions (4).

Satisfaction is important from several aspects for health care organizations. Satisfied patients are more likely to comply with treatment regimens, maintain a continuing relationship with a physician, and thus enjoy better treatment (1, 2, 4, 5). Therefore, through the continuity of care and adherence, patient satisfaction has the potential to improve health care outcomes (4). The high satisfaction is related to increased market share, better financial outcomes, and reduced claims of malpractice; in addition, patient satisfaction scores are now used to determine provider compensation

(4). Thus, patient satisfaction with health care services is not only a measure of performance but also helps to identify areas in need of improvement toward providing better care (3-6).

The quality of services plays a primary role in achieving patient satisfaction (7). Traditionally, service quality is assessed by certain measures, such as morbidity or mortality. However, in recent decades, the patients' perception of their care has also been taken into consideration (4). Thus, the patients' perception of the service quality contributes critically to achieving satisfaction (8). In some studies, the positive assessment of service quality is considered as satisfaction, and these terms are used interchangeably; however, patient satisfaction is only one of several measures of care quality. Quality judgments are fairly specific, whereas satisfaction judgments are more general (1, 9). Patient satisfaction is a positive or negative attitude reflecting the patient's feelings in relation to the received services. To obtain satisfaction, the patient must experience a service; in contrast, the perceived quality of services is not necessarily the result of experienc-

ing those services (10). The quality of services is associated with cognitive judgments, whereas patient satisfaction is associated with affective judgments (8, 11). The distinction between service quality as a cognitive construct and patient satisfaction as an emotional construct suggests a causal relationship in which the quality of services is a predictor of patient satisfaction (8). Several studies have been done on the relationship between service quality and customer satisfaction. Not surprisingly, the results show that the quality of services leads to higher satisfaction (11-12).

Understanding the relative importance of service quality dimensions is important in determining patient satisfaction and can help managers to find out which dimensions are crucial to patient satisfaction (1). This information can help managers to better allocate resources, implement effective management practices, and guarantee high levels of satisfaction. In general, knowing the relative importance of service quality dimensions in patient satisfaction is important because of its implications for future actions and decisions (1).

Most studies done in Iran have focused on evaluating the quality of inpatient services and the satisfaction derived from these (13) and on assessing hospital services; outpatient services have been neglected. Hospital outpatient departments are among the most important parts of a health system (7), a major source of patient supply to inpatient departments, and one of the first contact points between a patient and a hospital. Thus, the quality of outpatient services contributes significantly to a patient's overall impression of hospital services (14). Moreover, compared with some hospitals, outpatient centers are growing more rapidly, and the revenues of these centers are predicted to equal or even exceed those of inpatient services in the near future (1). Hence, the outpatient department plays yet another important role in the profitability of a hospital, and the ability of a hospital to provide high quality services in this department will be vital for its survival in the long term.

This cross-sectional study aimed to assess the impact of service quality on patient satisfaction in the outpatient departments of teaching hospitals affiliated with Shahid Beheshti University of Medical Sciences (SBMU), Tehran, Iran.

2. METHOD

Sample and procedures

This cross-sectional study was done in 2013 in Tehran, Iran. The study sample included 500 patients attending the outpatient departments (clinics) of teaching hospitals affiliated with SBMU in Tehran. Due to budget and time constraints, four hospitals were randomly selected. Then, according to hospital size (number of beds), the quota for each selected hospital was allocated from the overall sample. In the final stage, samples were selected from the clinic appointment list of each hospital through the systematic random method. After the sample selection, the necessary coordination with the patient was done to ensure that he/she completed the questionnaire on discharge from the clinic. Patients less than 14 years old and those unwilling to take part in the study were excluded.

Measures

A questionnaire consisting of three parts was used in data collection. The first part included 6 items on the pa-

tient's demographic and socioeconomic variables. The second part contained 37 items about the quality of hospital outpatient services in 8 dimensions, developed based on previous studies (5, 15-18). The third part included seven items on the patient's overall satisfaction, also designed based on previous studies (8, 19-21). The questionnaire items were measured by using a 5-point Likert scale, with answer choices ranging from totally agree to totally disagree (scores of 5 to 1, respectively).

The initial designed questionnaire was sent to five experts in the field of health services management and their comments about the modification of some items and their layout were applied in the final version of questionnaire. To assess the reliability of the questionnaire, Cronbach's Alpha coefficient was calculated. Coefficients for the service quality items was 0.931 and 0.958 for patient satisfaction items, which proved to be higher than the recommended level, and hence, our instrument had the required reliability and stability.

Data analysis

The mean scores for service quality and overall satisfaction were calculated. Quality and satisfaction were classified into three levels: weak, moderate, and good. Scores between 1 and 2.50 were considered as weak, those between 2.51 and 3.75 as moderate, and those between 3.76 and 5 as good. The data were analyzed by using descriptive statistics, Pearson's correlation, and multivariate regression methods with the SPSS.18 software.

Ethics

This study was approved by the Ethics committee of the Deputy of Research, Shahid Beheshti University of Medical Sciences (code: 11332/14075).

3. RESULTS

Of the 500 questionnaires distributed, 477 were completed and considered suitable for analysis. Women accounted for 57% of the patients, and men represented 43%. The mean age was 41 years (± 16); 23% of the patients had an academic degree, and 91 percent were urban residents. Only 6 percent of the patients did not have health insurance coverage.

Table 1 shows the mean scores for quality dimensions and overall quality of services. Of the eight dimensions of service quality, the one related to physician consultation got the highest score (mean of 4.23), whereas perceived waiting time received the lowest score (mean of 3.10). The mean score for overall service quality was 3.89 (0.60) out of a total score of 5. The analysis of the service quality scores indicated that

Service quality dimensions	Mean	Standard Deviation	Status
Accessibility	3.54	0.97	moderate
Appointment	3.97	1.10	good
Perceived waiting time	3.10	1.28	moderate
Admission process	4.05	0.82	good
Physical environment	3.72	0.87	moderate
Physician consultation	4.23	0.72	good
Information to patient	3.69	0.93	moderate
Perceived cost of services	4.01	0.99	good
Overall service quality	3.89	0.60	good

Table 1. Mean score and standard division of service quality dimensions

2.3% of patients evaluated the quality of outpatient services as weak, 38.3% as moderate, and 58.4% as good.

Table 2 shows the mean scores and standard deviation for overall satisfaction items. The scores ranged from 3.53 (Q4: This clinic and its services are very close to the ideal clinic in my mind) to 3.91 (Q1: Generally, I am satisfied with this clinic and its services). In general, the mean score for overall satisfaction was 3.83 (1.40 ±) out of a total score of 5, and the results on patients' overall satisfaction with hospital outpatient services according to the score classification were: 15%, weak; 24%, moderate; and 61%, good.

Items	Mean	Standard Deviation
Q ₁ : Generally, I am satisfied with the clinic and its services.	3.91	1.15
Q ₂ : This clinic and its services met my needs.	3.87	1.11
Q ₃ : This clinic and its services were according to my expectations.	3.75	1.13
Q ₄ : This clinic and its services are very close to the ideal clinic in my mind.	3.53	1.23
Q ₅ : I will use the services of this clinic again.	3.90	1.17
Q ₆ : I will say positive things about this clinic and its services to others.	3.89	1.12
Q ₇ : I will recommend this clinic to my friends and relatives.	3.93	1.21

Table 2. Mean score and standard deviation for overall patient satisfaction

The correlation test between service quality and patient satisfaction indicated a strong and significant correlation between service quality and overall satisfaction ($p < 0.001$, $r = 0.73$). Among the service quality dimensions, physician consultation was strongly correlated with overall satisfaction, followed by perceived cost of services and information to patients. The lowest correlation coefficient was related to perceived waiting time.

The relative importance of service quality dimensions in predicting patient's overall satisfaction was analyzed by linear regression. The purpose of this analysis was to quantify the relationship between the dependent variable (patient's overall satisfaction) and the independent variables (service quality dimensions). Based on the regression analysis, the R^2 value of this model is 0.575; therefore, service quality explains about 57 percent of the variance in patient's overall satisfaction (Table 3).

Service quality dimensions	Unstandardized coefficients	Standardized coefficients	t-value	Sig.
Constant	- 1.23	-	- 5.58	> 0.001
Accessibility	0.07	0.07	1.86	0.06
Appointment	0.14	0.15	4.15	> 0.001
Perceived waiting time	0.05	0.06	1.70	0.09
Admission process	0.07	0.05	1.50	0.15
Physical environment	0.22	0.19	5.45	> 0.001
Physician consultation	0.29	0.21	4.76	> 0.001
Information to patient	0.14	0.12	2.99	0.003
Perceived cost of services	0.31	0.29	8.47	> 0.001

Adjusted R2 = 0.575; F= 79.287; p> 0.001

Table 3. Regression results: the effect of service quality on patients overall satisfaction

The regression coefficients indicated that the regression model was statistically significant and that the five independent variables (perceived cost of services, physician consultation, physical environment, information to the patient, and appointment) had a positive impact on patient's overall satisfaction. One unit increase in positive perception of "perceived cost of services" leads to 0.29 unit increase in overall satisfaction. This value was 0.21 for "physician consultation," 0.19 for "physical environment," 0.12 for "information to patient," and 0.15 for "appointment." Based on these findings, "perceived cost of services," quality of "physician consultation," and quality of "physical environment" are the strongest factors affecting the patient's overall satisfaction.

4. DISCUSSION

This study aimed to determine the effect of perceived service quality on satisfaction of outpatients. The calculated value of R^2 was 0.57, which is consistent with the results of Jung et al. (22) in outpatient clinics in South Korea; therefore, the suggested model has relatively good predictive power. Based on Cohen's recommendation, R^2 values larger than 0.25 represent a significant variance in the model (23). The variance in overall satisfaction explained by service quality indicates adequate validity for the questionnaire given to assess patients' experiences and perceptions of outpatient services (24). Thus, the hypothetical model used to explain the relationship between service quality and overall satisfaction among patients in the outpatient clinics of teaching hospitals in Tehran was effective.

The results of this study are consistent with those of previous studies that examined the relationship between service quality and customer satisfaction, which suggested a relationship between these two constructs, such that high service quality leads to high satisfaction. Zeithaml et al., in a study on the consequences of service quality, pointed out that customer perception of service quality is the most important predictor of customer satisfaction (25). In the area of health services, the relationship between service quality and patient satisfaction is discussed, and it has been noted that patient satisfaction is influenced by the characteristics and provider of services (26).

The perception of service costs is the most significant predictor of patient satisfaction. In previous studies, health service costs has been cited as one of the most important determinants of patient satisfaction (27). A study by Arab et al. in teaching hospitals in Tehran showed that cost is an important and determining factor for patient satisfaction (2). In a study by Jung et al. in South Korea, the perception of the reasonableness of service costs was reported as the second determinant of patient satisfaction (22). The results of a study in Taiwan also showed a positive impact of the amount of out-of-pocket payments on patients' satisfaction with primary care physicians (28). All these findings are consistent with the results of the present study. They suggest that if patients perceive the costs as reasonable and receive valuable services in exchange, they will be satisfied.

The quality of physician consultation and physician-patient relationship was the second determinant of satisfaction in this study, consistent with the findings of previous research. In several studies, the patient-physician relation-

ship has been reported as the strongest factor affecting patient satisfaction (4). In studies done in the United Kingdom (15), Norway (24), Italy (1), South Korea (22) and Uganda (17), the quality of physician services was reported as the most important determinant of patient satisfaction with outpatient services. Generally, the skills and competencies of the physician, the examination method, the allocation of sufficient time for examination and consultation with the patient, the physician-patient relationship, and the patient's privacy are the factors that affect outpatient satisfaction (17).

The quality of the physical environment also has an effect on patient satisfaction. Unlike in studies in inpatient departments, which reported little effects of physical environment quality on patient satisfaction (29-31), our study found that the quality of the clinic physical environment has a considerable effect on outpatient satisfaction. In studies done in South Korea (22), England (15) and Italy (1), the convenience and cleanliness of the clinic was found to be an important factor influencing patient satisfaction.

This finding might be explained by the fact that a hospitalized patient, due to having a longer stay and experiencing more tangible factors, such as nursing services, hoteling services, meals, admission and discharge, and clinical measures, pays little attention to the physical environment of the hospital. For the outpatients, however, the physical environment of the clinics is the most tangible aspect of care and thus affects their perception of service quality.

Providing clear and adequate information to patients was the fourth factor affecting patient satisfaction. Receiving adequate information and explanation from the physician is an important determinant of outpatient satisfaction, and not receiving it may lead to dissatisfaction (16).

In studies done in Italy (1) and Norway (24), the transparency and adequacy of information provided by the clinic physicians and staff was found to be the third decisive factor in patient satisfaction.

This study provides important practical and theoretical implications for health care managers. However, like any other studies, it has some limitations, which can serve as a guide for future research in this area. First, the results presented here are based on the analysis of a causal model (the relationship between service quality and patient satisfaction) with the use of data from a cross-sectional study in which all variables were measured simultaneously.

Also, the hypothesized study model is a static model, and the results of this study represent only a single point in time. Because the model is not tested with the use of experimental data, strong evidence of a causal effect cannot be inferred; thus, the results should be used with caution. Future studies with longitudinal or experimental data would be more accurate in measuring causal relationships.

Second, this study investigated the effect of several factors (service quality dimensions) on patient satisfaction and found that the model explained 57% of the variance. This suggests that there are other important factors that can help explain patient satisfaction in outpatient departments other than the variables used in the model. In future studies, researchers can examine the impact of other factors on patient satisfaction.

5. CONCLUSION

In this study, the effect of the quality of outpatient services on patient satisfaction in teaching hospitals was evaluated. The results can help marketing professionals and hospital administrators to better understand the relationship between service quality and patient satisfaction, as well as the mechanisms for increasing satisfaction with and positive perception of services. According to the findings of this study, the majority of patients had a positive experience in the outpatient departments of the teaching hospitals and thus evaluated the services as good. Perceived service costs, physician consultation, physical environment, and information to patient were found to be the most important determinants of patient satisfaction. The results suggest that improving the quality of consultation, providing information to the patients during examination, creating value for patients by reducing costs or improving service quality, and enhancing the physical environment quality of the clinic can be regarded as effective strategies for the management of teaching hospitals toward increasing outpatient satisfaction.

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