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## Quality Gap of Primary Health Care Services at Kashan District Health Centers, Iran

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This study aims to identify quality gap by assessing users' perceptions and expectations of primary health care quality at Kashan district health centers in Iran. This cross sectional study was carried out during the first three months of 2002. A total of 324 regular female users of primary health care services at Kashan district health centers have been approached. Random sampling of the households covered by each health center was undertaken. The survey instrument was designed around the validated SERVQUAL instrument. Service quality gap was measured by computing the difference between the rating respondents assign to expectations and perceptions statements. Internal consistency of different items of expectations and perceptions were 0.80 and 0.85, respectively using Cronbach's alpha coefficient. The Wilcoxon signed rank test to compare the distributions of the expectations and perceptions. Results show that there were mean differences between clients' expectations and perceptions in all dimensions of service. The largest and smallest mean quality gaps were in the responsiveness and tangibility dimensions, respectively. There were significant differences between clients' expectations and perceptions. The clients' choices clearly show that responsiveness, reliability and assurance are the three most critical dimensions of health care services, respectively. Negative quality gap in all dimensions indicate that there is room for service quality improvement in all five dimensions. These findings suggest that primary health care managers should be looking carefully at each of the dimensions where customers perceive that they are receiving a different service than expected and consider the extent to which they should work on influencing expectations or perceptions, or both.

**Key words:** Service quality, SERVQUAL, perceptions, expectations, Iran

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## INTRODUCTION

Quality is one of the competitive priorities, which has migrated from the literature of manufacturing strategy to the service arena (Pariseau and McDaniel, 1997). Since, service quality has been receiving much prominence because of its obvious relationship to costs (Kellogg *et al.*, 1997), financial performance (Nelson *et al.*, 1992; Hallowell, 1996; Rust *et al.*, 1999), customer satisfaction (Cronin and Taylor, 1994; Kellogg *et al.*, 1997; Stauss and Neuhaus, 1997; Roest and Pieters, 1997; Shemwell *et al.*, 1998; Soderlund, 1998) and customer retention (Keaveny, 1995; Boshoff, 1997; Hocutt, 1998).

Service quality is a difficult concept to quantify, however in the pursuit of strategies to improve the quality of service and to achieve consumer satisfaction and loyalty the measurement of service quality is essential (Douglas and Connor, 2003). In describing the TQM implementation at Oregon State University, Coate wrote, "...Progress can only be determined and improved by measurement" (Pariseau and McDaniel, 1997).

In their review of service quality, Parasuraman *et al.* (1985) found that service quality could neither be conceptualized nor evaluated by traditional methods of goods quality because services possess three characteristics: intangibility, heterogeneity and inseparability. For this reason, they have developed, validated and refined an instrument called SERVQUAL-the most known and widely used model in the area of service measurement studies-to measure service quality (Juwaher, 2004). The SERVQUAL scale is based on a gap model, which suggests the gap between customers' expectations (what customers think a service provider should offer) and their perceptions of actual performance (Parasuraman *et al.*, 1985). If perception of the actual service delivered by the supplier falls short of expectation, a gap is created which should be addressed through strategies that affect the direction either of expectations or perceptions, or both (Parasuraman *et al.*, 1985; Zeithaml *et al.*, 1990). Parasuraman *et al.* (1985) also concluded that consumers used similar criteria to assess the quality of service no matter what the service type.

Within this context, In order to attract customers and retain them, service providers and researchers are actively involved in understanding consumers' expectations and perceptions of service quality and subsequently devising strategies to deliver the same (Pariseau and McDaniel, 1997). Moreover, an adequate understanding of customer expectations-as well as their past experiences-allows

managerial judgment to be exercised from a position of knowledge rather than guesswork in the important task of managing public expectations and resources (Donnelly *et al.*, 1995).

It is important that health services organizations measure service quality and use the tools of service quality in continuous improvement for a number of reasons, including competitive advantage, satisfying governmental requirements and meeting ever-increasing public expectations and satisfaction. A general consensus is emerging in the field of health care quality assurance that the concern for the quality of health services should not be limited to clinical effectiveness or economic efficiency but rather should include social acceptability as an important quality objective (Al Qatari and Haran, 1999). Thompson and Sunol argue that a real improvement in quality of care cannot take place unless users' views are involved (Thompson and Sunol, 1995).

By examining users' views, health services managers can assess overall quality of service and also identify the key dimensions on which to focus quality improvement efforts (Lim and Tang, 2000). Accordingly, this study aims to identify quality gap (using SERVQUAL) by assessing users' perceptions and expectations of primary health care quality at Kashan district health centers.

## MATERIALS AND METHODS

This cross sectional study was carried out during the first three months of 2002. A total of 324 regular female (female selected due mainly to the fact that females usually play a dominant role in taking care of their family's health) users of primary health care services at Kashan district health centers in Iran have been approached from whom 300 correctly completed questionnaires have been obtained. Random sampling of the households covered by each health center was undertaken, with the sample size for each catchments area being proportional to the number of the households in that area.

For data collection, six female public health undergraduate students were trained and delivered questionnaires to selected respondents. Respondents were given verbal and written instructions. They completed the questionnaires, with assistance available if required (especially illiterate clients), during the first few minutes of attendance in health center. The survey instrument was designed around the validated SERVQUAL instrument.

SERVQUAL, developed by Parasuraman *et al.* (1985, 1988), is an established framework for the measurement of

general service quality. The SERVQUAL model consists of 22 items regarding service attributes, which are grouped along five dimensions. This framework has been extensively used and tested across a wide range of public and private sector services (Galloway, 1998) and was therefore chosen as the framework for the research.

The model begins with the assumption that customers are able to articulate both their expectations of the general characteristics and determinants of quality service and also their perceptions of actual and current service quality for a specific service provider. The model therefore not only provides an assessment of customer views of current service quality; it also provides a yardstick in terms of their expectations of what that service quality should be (Donnelly *et al.*, 1995).

The data collection instrument consisted of three sections. An expectations section consisting of 22 statements and a perceptions section consisting of a matching set of statements. In the third part of the questionnaire samples provided demographic data about themselves.

A five-point Likert scale ranging from very important to very unimportant was used to measure the clients' expectations and the same scale ranging from strongly agree to strongly disagree was used to measure clients' expression of their perceived experience on each aspect of service. Service quality gap was measured by computing the difference between the rating respondents assign to expectations and perceptions statements ( $QG = P - E$ ).

Statements (in both the expectations and perceptions sections) are grouped into five dimensions: (1) tangibles; (2) reliability; (3) responsiveness; (4) assurance; (5) empathy. Tangibles represent the physical facilities, equipment and appearance of personnel. Reliability refers to the ability to perform the promised service dependably and accurately. Responsiveness is the willingness to help participants and provide prompt attention. Assurance indicates courteous and knowledgeable employees who convey trust and confidence. The empathy dimension includes caring and individual attention to users (Juwaheer, 2004).

The items of original SERVQUAL were modified in English for primary health services and then translated into Farsi. Three experts in the field to determine its consensual validity reviewed the questionnaire and the wording of statements was also simplified. Modification of the instrument for different service settings is supported by the developers of the instrument (Parasuraman *et al.*, 1994).

Lastly a pilot test was conducted with 30 respondents and final adjustment made accordingly. Internal consistency of different items of expectations and perceptions were 0.80 and 0.85, respectively using Cronbach's alpha coefficient. An alpha value of 0.60 and 0.70 or above is considered to be the criteria for demonstrating internal consistency of new scales and established scales, respectively (Nunnally, 1988).

Analysis was carried out using SPSS for Windows (version 11.0). The Wilcoxon signed rank test to compare the distributions of the expectations and perceptions. Statistical significance was considered achieved with a  $p < 0.05$ .

## RESULTS

The results shows the mean age of the respondents was  $29.16 \pm 7.07$  years. 55.7% of subjects include both illiterate female or female who can only read and write. 8.3% of them had a tertiary education.

Three of the highest expectations (E9, E7 and E8)-as shown in Table 1 are in the reliability dimension, the second highest Expectation is statement E5 in the assurance dimension and another one of the highest Expectations is statement E13 in the responsiveness dimension.

Two of the lowest expectation statements (E20 and E21) are in the empathy dimension, the third lowest expectation statement (E12) is in the responsiveness dimension, one of the lowest expectation statements (E2) is in the tangibility dimension and another one (E18) is in the assurance dimension (Table 1).

Three of the highest perception statements (P9, P8 and P10) are in the reliability dimension, the second highest perception statement is P1 in the tangibility dimension and the fourth highest perception statement is P19 in the empathy (Table 1).

Two of the lowest Perception statements (P22 and P20) are in the empathy dimension, two other lowest Perception statements (P11 and P12) are in the responsiveness dimension and one of the lowest expectation statements (P2) is in the tangibility dimension (Table 1).

Two of the largest differences between Expectations/ Perceptions (Quality Gap), QG13 and QG11, are in the responsiveness dimension. The largest quality gap is QG22. The third largest quality gap, QG5, is in the tangibility dimension. Another of the largest quality gap, QG7, is in the reliability dimension (Table 1).

**Table 1: Mean level of clients' expectations and perceptions and quality gaps in individual statements**

Statements	Expectation (E)	Perception (P)	Quality gap (P-E) = (QG)
<b>Tangibility</b>			
Employees are neat and professional in appearance	4.09	3.30	-0.79
Environment is clean and comfortable with good directional signs	3.92	2.92	-1.00
The spent time for delivered services are appropriate	3.94	3.01	-0.93
Materials and facilities are visually appealing and well-maintained	3.97	3.03	-0.94
Privacy during service delivery	4.41	3.10	-1.31
<b>Reliability</b>			
Employees are professional and competent	3.94	2.96	-0.98
Services carried out right the first time	4.40	3.10	-1.30
Employees tell patients exactly when services will be performed	4.39	3.28	-1.11
Documents are retrieved error free and fast	4.67	3.72	-0.95
When employees promises to do something by a certain time, it does so	4.24	3.24	-1.00
<b>Responsiveness</b>			
Clients are given prompt services	4.15	2.89	-1.26
Employees are always willing to help clients	3.75	2.91	-0.84
Employees are not too busy to respond to patients' requests	4.39	3.02	-1.37
Attitude of employees instill confidence to clients	4.22	3.19	-1.03
<b>Assurance</b>			
Patients are treated with dignity and respect	4.21	3.19	-1.02
Employees have the knowledge to answer patients' questions	4.32	3.13	-1.19
Employees are friendly and courteous	3.95	2.98	-0.97
I can trust employees of health center	3.86	2.94	-0.92
<b>Empathy</b>			
Operating hours are convenient to all of clients	4.37	3.26	-1.11
Employees give clients individual attention	3.72	2.63	-1.09
Employees have patients best interest at heart	3.54	3.16	-0.38
Employees understand the specific needs of clients	4.22	2.62	-1.60

**Table 2: Mean level of clients' expectations and perceptions and quality gaps in service dimensions**

Dimensions	Expectation	Perception	Quality gap	Wilcoxon test (z)
Tangibility	3.98	3.06	-0.92	-15.14
Reliability	4.34	3.23	-1.11	-15.14
Responsiveness	4.13	3.01	-1.12	-15.10
Assurance	4.17	3.12	-1.05	-15.19
Empathy	3.94	2.92	-1.02	-15.09

Two of the smallest quality gap statements, QG1 and QG3, are in the tangibility dimension. The smallest quality gap is QG21 in the empathy dimension. The third smallest quality gap, QG12, is in the responsiveness dimension. The other one of the smallest quality gap is QG18 in the assurance dimension.

Table 2 shows that there were mean differences between clients' expectations and perceptions in all the dimensions. The largest and smallest perceptions mean are in the reliability and empathy dimensions, respectively. The largest and smallest expectations mean are in the reliability and empathy dimensions respectively. The largest and smallest mean quality gaps are in the responsiveness and tangibility dimensions, respectively. A Wilcoxon test revealed that the z value of all the dimensions fell in the critical region. We, therefore, conclude that there were significant differences between clients' expectations and perceptions.

## DISCUSSION

This study shows that all five dimensions had negative quality gap (Table 2), indicate that service quality in all dimensions is generally below clients' expectations and imply that there is room for service quality improvement in all five dimensions in these health centers.

The largest QG was in the responsiveness dimension similar to Parasuraman *et al.* (1988) and Lim and Tang, (2000) researches on service quality. This gap closely followed by shortfalls in reliability and assurance (Table 2). The clients' choices clearly show that responsiveness, reliability and assurance are the three most critical dimensions of health care services respectively. This supports earlier research in service area (Lobo and Jain, 2002; Ugboma and Ugboma, 2004; Ugboma *et al.*, 2004). Managers of primary health care services should shift their resources to these critical facets of service. As it is a prerequisite to have knowledgeable and service-oriented employees to serve clients better (Ugboma *et al.*, 2004) the health managers should allocate resources to the training of their employees, so that employees will feel confident and able to provide prompts/personalized and caring service to clients.

The smallest quality gap was in the tangibility dimension as it is in some other studies (Curry and Sinclair, 2002; Lim and Tang, 2000; Zeithaml *et al.*, 1990). The second smallest one was in the empathy dimension (Table 2). Smaller quality gap in these dimensions is likely to be due to that health care users focus on the functional aspects, (how it is done) namely; reliability, assurance and responsiveness, rather than the technical aspects (what is done) captured in the tangibility and empathy dimensions (Mei *et al.*, 1999). However, as indicated above, managers also need to place emphasis on tangibles, which will match consumer expectations, but not to the extent of consuming excessive finance, which may be better used to meet gaps in the other dimensions such as responsiveness and reliability.

Understanding the consumers' expectations regarding quality is an essential process in the successful provision of quality service (Knowing what consumers expect) and is crucial for survival (Douglas and Connor, 2003). Also, it is argued that the key to ensuring good service quality perception is in meeting or exceeding what customers expect from the service (Parasuraman *et al.*, 1985). However, these health centers have failed to meet the expectations that were considered critical by clients. Confirming some previous research findings (Youssef *et al.*, 1995; Parasuraman *et al.*, 1985) reliability was regarded as the most important of the five dimensions in this study (Table 2). This finding is different from some other studies (Douglas and Connor, 2003; Curry and Sinclair, 2002; Lim and Tang, 2000; Pariseau and McDaniel, 1997). However, if consumer expectations are high, the system will have a harder task to meet these expectations.

From the result, it was found that the consumers assess the empathy dimension as being the least important in their expectation of service quality (Table 2). This is likely to be due to the expected level of empathy being met. This finding is similar to some studies (Lim and Tang, 2000; Dotchin and Oakland, 1994) whereas is not consistent with some other studies (Wisniewski and Wisniewski, 2005; Douglas and Connor, 2003; Curry and Sinclair, 2002; Lim and Tang, 2000).

Expectations findings show that health care users also focused their expectations on the functional aspects. This is consistent with the views of Koch (1991), Jayanti (1993) and Lim and Tang (2002). Clients rated these dimensions higher because the helpfulness of staff and their ability to convey confidence is important to them in an environment over which they have little control. Hence to improve clients' perception of health services quality, managers should focus on the functional aspects rather than the technical aspects.

The relatively little importance to the tangibles was in keeping with the findings of (Zeithaml *et al.*, 1990; Parasuraman *et al.*, 1991; Lewis *et al.*, 1994).

Overall, consumer expectations need to be managed to improve perceptions and the best way to achieve this is to detail service specifications, making it clear what consumers can and should expect from the service (Curry and Sinclair, 2002).

Compared to other dimensions, reliability received high perception scores, clients somewhat feeling that staffs were competent and provided services at the time promised and recorded and retrieved documents error free and fast (Table 1).

Finally, the findings of this survey suggest that primary health care managers should be looking carefully at each of the dimensions where customers perceive that they are receiving a different service than expected and consider the extent to which they should work on influencing expectations or perceptions, or both.

Managers can keep negative quality gaps in 22 statements (Table 1) as a yardstick, on which improvement efforts can be focused. These statements when considered collectively imply an important message from clients to health managers: be responsive, carry out right the first time, allot enough time to respond to patients' requests, deliver prompt services, keep privacy and most of all, understand the specific needs of your clients.

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