Original Article

# Quality gap in primary health care services in Isfahan: women's perspective

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## ABSTRACT

**Background:** Quality gap is the gap between client's understanding and expectations. The first step in removing this gap is to recognize client's understanding and expectations of the services. This study aimed to determine women's viewpoint of quality gap in primary health care centers of Isfahan. **Materials and Methods:** This cross-sectional study was conducted on women who came to primary health care centers in Isfahan city. Sample size was 1280 people. Service Quality was used to collect data including tangible dimensions, confidence, responsiveness, assurance and sympathy in providing services. Data were analyzed by *t test* and chi square test. **Results:** The results showed that women had controversy over all 5 dimensions. The least mean quality gap was seen in assurance (-11.08) and the highest mean quality gap was seen in tangible dimension (-14.41). The difference between women's viewpoint in all 5 dimensions was significant. ($P < 0.05$) **Conclusion:** Negative difference means clients' expectations are much higher than their understanding of the current situation, so there is a large space to improve services and satisfy clients.

**Key words:** Isfahan, primary health care, quality gap, women

## INTRODUCTION

Quality in healthcare has gained new definition in developed countries because of the better education of the patients and clients, and increased costs.[1] The advances in science and technology in the past few decades have paved the way to utilize facilities and resources optimally in addition to providing relative comfort for people. The quick and ever growing increase in health care expenses, especially in diagnosis and treatment section, has caused experts - economists, manager, or even physicians, nurses and health experts- across the globe to look for new ways to limit expenses.[2] This issue is important in our country, too. Therefore, it is necessary to provide appropriate health care with the least possible cost, especially when the most important objective of primary healthcare centers is providing satisfactory, economical, standard services in the most suitable form and shortest time. So it is necessary to balance quality and costs.[3]

The quality of health care is the level of provided services to individuals and societies that can increase the probability of desirable results and is up-to-date.[4]

Quality control is a relatively traditional method based on the assumption that errors are inevitable. Therefore, the way to control quality is to audit or control events to make sure of their constant elevation of quality, moving a step ahead. The philosophy behind quality control is that what is good enough today might not be that good tomorrow. So the organization's objective must be constant elevation of quality. The prime

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objective of total quality is customer's satisfaction, which covers the whole organization. That is, the objective of all units of the organization should be satisfying the customer.[5] Total quality management, is a way to improve efficacy, flexibility, and competitiveness of the organization. It covers all departments and resources of an organization in order to reach quality and satisfy the needs of clients and benefits of employees.

The needs of the clients must be addressed in three levels. The first level is providing basic needs. The second level is to satisfy their needs in a way that they return to us. The third level is to furnish their needs more than they expect.[6-9]

Determining indicators of service quality include responsiveness (the tendency and readiness of employees to provide services, punctuality and so forth), competency (having necessary skills and knowledge to provide services), availability (being accessible and easy to contact with), politeness and modesty (flexibility, respect, consideration, friendly behavior), communication (informing clients using understandable language), security (free from danger, risk or doubt of clients about the service), trust (consistency, and reliability), assurance (trustworthiness, credibility, honesty), visibility (physically visibility of the service), understanding/knowing the client (trying to understand client's needs).[8]

Quality management in healthcare systems is an important issue because weak quality of services causes more diseases, disabilities, and costs, and less trust on healthcare system. Governmental and private healthcare centers can improve services, reduce mortality and morbidity and increase quality of life by assessing, and consequently elevating quality. Using quality assessment of services in healthcare center, we can study problems and deficiencies of the centers in terms of client care, infections, and mortality. Analyzing the data, we can reduce the problems.[10-16]

With regard to the role of health care staff in providing services, it can be said that the success of an organization depends on the staff, so they must be aware of the quality of care in their organization.[17] Healthcare staff are service providers and part of the healthcare system.[18] A tremendous advance has taken place in terms of healthcare both in health status and in utilizing required resources. This development includes healthcare staff, too. They have shown to impact mortality and other health indicators.[19] Since medical sciences are advancing, healthcare staff must be up-to-date. Therefore, regular training courses for the healthcare staff are necessary.[20-22]

Milani *et al*. showed that service provision in 40% of the staff was weal, in 31% was average and in 29% was good. Children under 2 years old received weaker services.[23]

Pakgohar *et al*., in a cross-sectional study entitled satisfaction of parents of children under 1 year old, showed that most of the parents were moderately satisfied with the staff's communication with them, but were highly satisfied with the availability and easy access of services.[24]

Seyedoshohadaie *et al*. found no significant difference between private and governmental section in terms of doing regular pregnancy tests, and measuring and recording weight, blood pressure, etc, while a significant difference was found in terms of mother's first visit, which was more complete in the private section.[25]

Other services in Iran found different results in terms of expectations of the current situation and desirable healthcare services.[26-28]

Ehiri *et al*. from southeast of Nigeria showed a better quality of services in the vaccination and prevention of diarrhea in children, but other aspects of primary healthcare services including controlling respiratory infectious diseases and other prevalent problems of children in that region were less attended to.[29] Shabrawy in Riyadh found that only 50% of clients to 140 healthcare centers there, and one fourth were dissatisfied with long waiting.[30] In other foreign studies, negative gap is seen between the expectations of the current situation and the desirable service provision in different aspects.[31-36]

With regard to the above studies, it is clear that there is a difference between different groups in terms of received services in five aspects of quality. Because the results of previous studies cannot be generalized to other healthcare services, each manager needs to conduct such studies in order to elevate quality in his organization. That is how it is expected to have a model that is more applicable, and adaptable with the situation of the organization to remove the weaknesses and improve the quality beyond client's expectations. The present study was conducted to reach this goal.

## MATERIALS AND METHODS

The present descriptive-analytic cross-sectional study was conducted on mothers who came to selected healthcare centers in Isfahan. Inclusion criteria were all women who came to selected healthcare centers in Isfahan to receive primary health care like family planning, vaccination, child growth surveillance, and exclusion criteria included clients' disinclination to participate or complete the questionnaire. Because of the geographical distribution of the study population, cluster sampling was used. The city was divided to 10 clusters, and one center out of each cluster was randomly selected. Sampling in each center was also random. Enough number of questionnaires was given to each center based on the covered population of each center.

In the present study, sample size was estimated 1270 based on sample size formula.

Service quality tool was used to collect data. This tool has 22 Likert style questions, and has 5 dimensions of tangible or physical services (4 questions), reliability of services (5 questions), responsiveness or responsibility of service providers (4 questions), service assurance (4 questions),

and empathy (5 questions). This questionnaire was used in two stages. In the first stage, primary healthcare clients were asked to express their opinion of the provided services (understanding the current situation). At this stage, responders used one of the choices of (very good, good, average, bad, and very bad) to judge about the quality of the provided service. At the second stage, they were asked to express their opinion of how the quality of services should be (expectation of the desired situation). At this stage, responders used one of the choices of (really important, important, relatively important, unimportant, really unimportant) to judge about the desired quality of services. Each question scored between 1 and 5. The total of each service was added up to calculate the grand total, which was divided by the number of questions and multiplied by 100 to find the score based on 100. To find the total quality of services, the scores of all questions were added up, and then divided by 22 (the total number of questions) to calculate the total quality score based on 100. The difference between quality of provided services and expected services was calculated by subtracting the two scores. Validity and reliability of the tool was determined and adjusted for the Iranian population after conducting a preliminary study on 25 clients.

In the present study, tangible dimension of service quality meant physical space and condition of the service provision place including facilities, equipment and healthcare staff. Reliability dimension meant the ability to provide the service in a certain and reliable manner. Responsiveness dimension meant the tendency to cooperate with and help the client. Assurance dimension meant the staff's ability to assure clients. The empathy dimension meant special treatment for each client according to her mood so the clients were convinced that the organization had realized them.

SPSS software program was used to analyze the data. To compare client's understanding and expectations for primary healthcare services, *t test* and chi square test were used.

This study was approved by the Research Council of Isfahan University of Medical Sciences. Different sections of the study were designed in a way to avoid ethical issues as much as possible.

## RESULTS

In this study, 1280 women who came to Isfahan healthcare centers participated with a mean age of 27.53 ranging from 16 to 49 years old. Other demographic characteristics are shown in Table 1.

Table 2 shows the frequency distribution of the study population based on their education. Accordingly, 22 people (1.7%) were illiterate, 310 (24.1%) had elementary school education, 322 (25%) had middle school education, 550 (42.7%) had high school education and 84 (6.5%) had university education. According to this table, the highest frequency belonged to high school education, which can affect clients' perception of expectations.

Forty-eight people (4%) worked, and 1240 people (96%) were housewives. Pregnant women comprised 16.1% (208 women), so the remaining 1080 women (83.9%) were not pregnant. Pregnancy can affect the client's number of visits to the health care center in that pregnant women go to health care centers not only for pregnancy care, but also for child care.

There were 610 (47.5%) nursing mothers and the remaining 678 women (52.5%) were not nursing. Nursing shows that they had children under the age of 2, who are more vulnerable and need more care. Therefore, it affects the number of mothers going to health care centers.

Mean score of perception of the current situation of health care, and the desired expectation and quality gap in 5 dimensions of primary health care are shown in Table 3.

## DISCUSSION

Nowadays evaluating the quality of healthcare services is one of the principles of improving quality of services, which clients pay an important role in. Without their contribution and intervention, it is not possible to reach higher quality of healthcare services. Therefore, the first step in devising quality elevation programs is to recognize the clients' perceptions and expectations of quality of services, and determine quality gap so it can be filled. Furthermore, because quality gap in different populations is different, the present study was conducted to determine the quality gap of primary healthcare services in Isfahan.

As can be seen in demographics, mean age of the studied population was 27.35 years ranging from 16 to 49. Mean number of children in the studied population was 1.5 with the minimum of 0 and the maximum of 7 children. This figure

**Table 1: Demographics of studied women in terms of age, number of children, age of last child, mean monthly income, duration of pregnancy, and duration of using health care services**

| Demographics | Number of samples | Mean | Standard deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Age (year) | 1288 | 27.53 | 5.27 | 16 | 49 |
| Number of children | 1288 | 1.50 | 0.93 | 0 | 7 |
| Monthly income | 1288 | 263 | 58 | 50 | 650 |
| Duration of pregnancy | 208 | 4 | 2.3 | 1 | 9 |
| Duration of using health care services | 1288 | 4.6 | 5.6 | 1 | 12 |

can affect the usage of healthcare services in that mothers with more children go to the health care center more often (for vaccination and child growth surveillance).

Mean monthly income of the studied families was average, which can affect using governmental healthcare services. Lower economical status causes more usage of governmental healthcare services, while people with higher economical status use public services less.

In this study, 208 women were pregnant with a mean gestational age of 4 months. As the gestational age increases, the number of visits to the healthcare center increases.

The results showed that in general, there is a negative quality gap in all five dimensions of services. The negative gap shows that the expectations of clients were beyond their perception of the current situation, so there is a lot of space to improve and reach client satisfaction and desired healthcare services.

The least mean quality gap was seen in assurance and the highest mean quality gap was seen in the tangible dimension.

Kebriaee *et al*. found the least quality gap in assurance and the highest in empathy dimension in healthcare centers in Kashan.[37] Lim and Tang studied patients in Singapore hospitals to determine their perceptions and expectations. They found quality gap in all five dimensions. The least gap was in tangible dimension and the highest gap was in the responsiveness dimension.[35] Mik and Hazel studied a sample of women who went to a hospital in Scotland. They found quality gap in all five dimensions in that the least gap was in reliability and the least gap was in assurance dimension.[36] Karydis *et al*. studied Greek patients going to a dentistry center and found significant quality gap in all five dimensions, and the highest gap was found in the responsiveness dimension.[32]

**Table 2: Frequency distribution of participants based on education level**

| Education | Number | Percent |
|---|---|---|
| Illiterate | 22 | 1.7 |
| Elementary school | 310 | 24.1 |
| Middle school | 322 | 25 |
| High school | 550 | 42.7 |
| University | 84 | 6.5 |
| Total | 1288 | 100 |

Cote and Gagliano received clients' opinion in clothing stores in southeastern states of the U.S. (Alabama, Florida, and Georgia) and found the highest gap in empathy dimension, followed by reliability and responsiveness dimensions, while the lowest gap was seen in assurance dimension.[33]

By continuously elevating and evaluating quality of services, there should be an attempt to reduce quality gap in planning. Because the highest gap was in tangibles, empathy, reliability, assurance and responsiveness, the following message is useful for managers and planners of health care centers.

Centers should be equipped with efficient and modern equipment, services should be provided at the promised time, and at the shortest possible time to the clients, staff and service providers should be available when clients come to the center, they should know up-to-date knowledge and skills, and realize client's values and emotions. Furthermore, because the highest gap was seen in tangible and empathy dimensions, enough budget should be specified to equip healthcare centers. In addition, with regard to cultural characteristics of our country, measures should be taken to improve communication with clients in order to make them feel more comfortable and satisfied. To increase quality of empathy dimension, it is recommended that on the job training courses be held for staff on improving their communicative skills and consider the time that clients think is appropriate for receiving services. Another point is that bad quality in one dimension aggravates other aspects. That is, it reduces the quality in clients' opinion, so it is recommended to pay more attention to dimensions that have higher quality gap (tangible and empathy).

The findings of this study show that clients believe that all five dimensions have quality gap. Because in total quality management system, clients' satisfaction is the focus of all activities to improve quality of service, this part must make more attempts to satisfy clients. Because clients find quality gap in the quality of services, it is recommended that clients' opinion be considered in planning. To do so, one of the most sensitive actions is to establish a dynamic information and feedback mechanism between the organization and the service recipients. The efficiency of such mechanism is the determining factor in success of organizations in reaching better quality. Furthermore, since lack of resources is one of the major obstacles in reaching more desirable quality, evaluating quality gap makes the management capable of

**Table 3: The mean of favorable and present situation and quality differences in five dimention**

| Dimensions of quality services | Perception of current situation | Perception of desired situation | Quality gap | Paired t test | |
|---|---|---|---|---|---|
| | | | | t test | *P* value |
| Tangibles | 27.35 | 41.76 | -14.41 | 42.87 | <0.001 |
| Reliability | 34.10 | 47.18 | -13.08 | 32.21 | <0.001 |
| Responsiveness | 28.04 | 41.07 | -13.03 | 37.63 | <0.001 |
| Assurance | 27.39 | 38.47 | -11.08 | 28.12 | <0.003 |
| Empathy | 36.53 | 50.50 | -13.97 | 31.89 | <0.001 |
| Total quality | 30.68 | 43.79 | -13.11 | 36.47 | <0.001 |

budgeting in a way to have the best functioning in domains that can have the highest effect on clients' perception and expectations of quality of services while preventing from quality loss. Therefore, the quality gaps seen in the research can be a guide for planning and budgeting. Likewise, as the results show, significance of mean differences in five dimensions can be divided to two priority groups for budgeting and improving quality. Dimensions of tangibles and empathy are the first priority and dimensions of reliability, assurance and responsiveness are in the second priority.

Since primary healthcare recipients were studied as a special group of service recipients, the results of this study cannot be generalized to other domains of health and treatment system or other organizations. Therefore, it is recommended that each city and each manager in different health care centers should act independently to learn about quality gap in his center.

Such a comparison confirms the fact that quality gap in five dimensions is different in different groups of service recipients. That is why the results cannot be generalized to other domains of health and treatment services and each manager needs to design quality improvement of his organization by taking the first step of conducting such researches. This way, it can be expected that a more adaptable and applicable model be proposed to remove the weaknesses, and provide services beyond the expectations of the service recipients.

Negative scores of quality in this study show that importance of such services for the clients. In other words, they show that the health care center acted weakly, so it is necessary to improve the quality of primary health care.

## CONCLUSION

With regard to the mentioned points, it is necessary to emphasize that paying attention to quality or expenses alone cannot guarantee persistent success, so both concepts (quality and expenses) are important. However, for each budget cut program, there should be a balance between quality and expenses of the services. The basis of quality management and provision of persistent service quality needs great changes in attitude of managers and human forces in terms of providing services and working in organizations. Changes in organization culture, organization development and qualitative human force development, creating commitment to objectives of the organization, creating trust, replacing rivalry with cooperation and harmony, using quality improvement methods, emphasis on qualitative evaluation of activities instead of emphasis on quantitative monitoring and controlling, and many other activities can improve qualitative functioning and efficiency of organizations. It should be remembered that attention to human force and its development and improvement from different aspects (qualitative and quantitative) is a key solution to provide quality in the organization.

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