Original Article

Evaluating the quality of Iran's Package of Essential Non-communicable (IraPEN) disease in the Eastern Health Center of Ahvaz: Viewpoints of the referring patients

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Abstract

Introduction: Service quality is a key factor in different organizations' success, growth and access to better competitive positions. The quality of the services offered by the health system is accordingly of paramount importance because the major mission of any health system is protecting the health of communities. In this regard, assessing the views of clients about the quality of health care delivery has attracted such considerable scholarly attention that WHO has considered it at the heart of all policies and strategies for improving the quality of healthcare. Therefore, the aim of this study was to evaluate the quality of Iran's Package of Essential Non-communicable (PEN) disease in the Eastern Health Center of Ahvaz, southwest of Iran, from the point of view of the referring patients in 2018. Methodology: The present study is descriptive-analytic in purpose and an applied research in terms of its results. The research population includes patients (aged 30 and above) who referred to the healthcare facilities covered by the Eastern Health Center of Ahvaz for receiving a set of essential interventions for non-communicable diseases. Based on the sample size formula, the number of samples was calculated to be 354 patients referring to the healthcare facilities covered by the Eastern Health Center of Ahvaz who were chosen by simple random selection. A standard SERVQUAL questionnaire was used to collect the data regarding the quality of services provided and those expected. Data analysis was performed by SPSS using paired t-test, one way ANOVA, Pearson correlation coefficient and Spearman, followed by multiple linear regressions. Results: The results showed that there is a significant difference between the expected quality of services and the perceived services offered in the healthcare facilities studied. Overall, the quality of the services provided did not meet the expectations of the respondents. In this study, the widest gap was related to the quality of services in terms of the dimension of empathy (1.32) while the smallest was related to assurance (0.98). There was a significant linear relationship between the level of expected and perceived responsiveness among the subjects ($p = 0.019$). Also, there was a significant linear relationship between the expected assurance and the perceived responsiveness among the subjects ($p = 0.131$). Conclusion: Service quality and customer satisfaction is an important part of the competitive advantages in the health care sector, and beyond a simple gap between expectation and perception of service quality, people may have a different understanding of primary health care, which in turn, affects their perceptions of service quality. Therefore, the management of health care quality should be oriented towards comprehensive optimization in all domains, and not be limited to areas that are recognized as a quality priority from the view of the clientele of a specific center.

Keywords: Quality, Quality Assurance, Quality of Health Services, Servqual, IraPEN, PEN

Introduction

Today, stability in the workplace has been replaced by instability and uncertainty throughout the world. In fact, today's societies are rapidly and constantly undergoing transformations in the fields of science and technology, and these changes have contributed to their progress, and in the meantime, to a competition between companies and large organizations. They are constantly looking for enhancing and evaluating their strategies and policies [1]. In this regard, service quality is a key factor in achieving success in business, and attaining desirable growth and a better competitive position [2].

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Like other organizations today, health systems are no exception in this constantly changing environment [3]. Health systems are subject to the same changes because these changes are necessary for their growth and bring about fundamental reforms in their organization. In recent years, many countries have experienced significant changes and reforms in their health system. In these reforms, the quality of services has received considerable attention in order to meet the satisfaction of customers and people [4, 5].

In the health sector, the topic of quality has a special importance and place because it is the duty and mission of this sector to protect the health of the society, and it goes without saying that the quality of services offered in this sector is the main determinant of its success in today's competitive environment [6].

Non-communicable diseases account for more than 53% of the burden of diseases worldwide, and more than 76% of the total burden of diseases in Iran has been attributed to these diseases [7]. Preventing and managing non-communicable diseases and responding to the needs of people suffering from them depends on making calculated changes to the health system [8]. Today, by virtue of accountability and responsiveness to the needs of people in the health sector, these changes call for reforms and effective factors. One such reform is Iran's Package of Essential Non-communicable (PEN) disease, which is aimed at the implementation of screening plans and early diagnosis and risk factors for non-communicable diseases such as stroke and cardiovascular disease integrated with hypertension, diabetes, blood lipids, along with screening of cancer (breast, colon and cervix) and asthma with four risk factors of infertility, unhealthy diet, alcohol and tobacco use in urban health centers. Also, due to increased mortality associated with these diseases, the World Health Organization (WHO) has identified them and their underlying factors as the main objective of 25% reduction in mortality rate of non-communicable diseases by 2025 [6, 9].

Many programs have been developed to improve and enhance the quality of services, but for some reasons, service quality is still the biggest problem ahead of healthcare facilities [10]. The results of Khodadadi et al as well as those of Riahi et al. show that the quality of services after Iran's Health Reform Plan has increased, and patient satisfaction with the quality of the received services is desirable after the implementation of this plan [11, 12]. However, the results of Ebrahimnezhad Georgi et al. showed that although according to the policies of the Ministry of Health and Medical Education, the implementation of the Health Reform Plan is expected to increase the quality of services, their findings indicated that the quality of services did not increase, but rather the quality of services was reduced compared to the implementation of the Reform Plan [13].

Receiving customer feedback is one of the key steps in providing and improving service quality, which makes it important to identify and prioritize areas that need to be improved continuously [14].

In the past, health services in the villages were known as Health and Wellness Houses, but the main problem in this regard was related to the city and the less developed urban areas, and the implementation of the health reform plan partially addressed this shortcoming. Given the increasing growth of non-communicable diseases and the increased mortality due to these diseases in Ahvaz since 2016, Iran's Package of Essential Non-communicable (PEN) disease in the city has entered the operational phase. Currently, analyzing the risk of stroke and heart attack by integrating blood pressure, diabetes, and blood lipids, as well as screening of cancer (breast and colon) are done in this city. The eastern part of this city is of greater importance based on the number of health units (bases and centers) and manpower (health care providers) as well as its urban area and population. Since no study has ever conducted on this particular area in this regard, the present study was aimed to evaluate the quality of Package of Essential Non-communicable (PEN) disease in the Eastern Health Center of Ahvaz from the viewpoint of referents in 2018, using SERVQUAL method.

Method

This research was descriptive-analytic in terms of its goal and was applied with regard to the results. It was carried out in comprehensive health centers covered by the Eastern Health Center of Ahvaz in 2018. Given that analyzing the risk of stroke and heart attack by integrating blood pressure, diabetes, and blood lipids, as well as screening of cancer (breast and colon) are done in this city since 2013 for individuals aged 30 and above, the research population included individuals who referred to the centers and bases covered by the Eastern Health Center of Ahvaz in order to receive Package of Essential Non-communicable (PEN) disease. Based on the sampling formula, the sample size was calculated to be 354 patients referring to 21 health units of the Eastern Health Center of Ahvaz. Sampling was done according to the allocation of the population of patients to the bases and centers. A simple random method was used to select the centers, bases and visitors. The service quality measurement tool was a standard and valid questionnaire for SERVQUAL (Parasurman), which included 22 questions and 5 dimensions of quality including the dimension of tangibles (question 1-4), reliability (question 5-9), responsiveness (question 10-13), assurance (question 14-17), and empathy (question 18-22). The scoring of this questionnaire was based on a Likert scale of 1 to 5. Analysis of the data was performed in SPSS using paired t-test, one way ANOVA, Pearson correlation coefficient, followed by multiple linear regression. Significance level was considered 0.05.

Results:

Table 1 shows the demographic characteristics of the participants in this study. Most of the participants were

female (60.5%), 56.9% of the participants were others, 58.8% had a diploma or an associate's degree, and the highest frequency of referral was 2-3 times which made up 43.4% of the referrals.

Table 1: Frequency distribution of demographic characteristics of the participants

Variable	Group	Frequency	Percentage
Age	30-39	185	55.7
	40-49	80	24.1
	> 50	67	20.2
Sex	Male	131	39.5
	Female	201	60.5
Occupation	Students	11	3.3
	Employee	75	22.6
	Self-employed	57	17.2
	Other	189	56.9
Education	Diploma or associate's degree	195	58.7
	Bachelor's degree	76	22.9
	Master's degree or higher	61	18.4
Number of referrals	Once	57	17.2
	2-3	144	43.4
	> 3	119	35.8
	Not registered	12	3.6

The mean scores of the expectations and perceptions which the respondents gave to the various dimensions of the quality of IraPEN services along with the gap score are presented in Table 2. Considering the results of the paired t-test, it is clear that the gap between the expectations and perceptions of referrals to health centers and health centers with regard to IraPEN service is significant at 95% (p-value = 0.00). In all five dimensions, the level of expectations of clients was higher than that of their perceptions, and there was a negative gap between them. The widest gap was found in the empathy dimension (1.32) while the smallest gap was related to the assurance dimension (0.98). The highest average score in patients' expectations was related to dimensions of reliability and assurance (4.74), whereas the lowest was related to the empathy dimension (4.67).

Table 2. Comparison of means and standard deviations of the participants' expectations and perceptions of the five quality dimensions

Quality dimensions	Variables	Mean	Standard Deviation	Quality Gap		Significance level
				Mean	Standard Deviation	
Tangibles	Expected	4.69	0.50	1.02	0.4	P=0.00
	Perceived	3.67	0.90			
Reliability	Expected	4.74	0.43	1.05	0.47	P=0.00
	Perceived	3.69	0.90			
Responsiveness	Expected	4.71	0.51	1.14	0.49	P=0.00
	Perceived	3.57	1.00			
Assurance	Expected	4.74	0.50	0.98	0.45	P=0.00
	Perceived	3.76	0.95			
Empathy	Expected	4.67	0.55	1.32	0.56	P=0.00
	Perceived	3.35	1.11			

In Table 3, the results of the relationship between the participants' expectations and perceptions of the five dimensions of service quality are shown. The results indicate that there is a significant linear relationship between the expected and perceived responsiveness (p = 0.019) and the relationship between these two variables is direct. Also, there is a significant linear relationship between the expected assurance and perceived responsiveness (p = 0.017) and the relationship between these two variables is also direct.

Table 3. The relationship between the expected and perceived dimensions of service quality

		Perception				
	Dimensions	**Tangibles**	**Reliability**	**Responsiveness**	**Assurance**	**Empathy**
Expectation	**Tangibles**	r=-0.039 P=0.480	r=-0.018 P=0.741	r=0.035 P=0.520	r=0.001 P=0.980	r=-0.041 P=0.460
	Reliability	r=-0.011 P=0.836	r=0.091 P=0.099	r=0.106 P=0.053	r=0.085 P=0.121	r=0.063 p=0.252
	Responsiveness	r=0.012 p=0.821	r=0.043 P=0.435	r=0.128 * P=0.019	r=0.070 P=0.205	r=0.008 P=0.878
	Assurance	r=0.028 p=0.617	r=0.069 P=0.210	r=0.131* P=0.017	r=0.080 P=0.148	r=0.024 P=0.661
	Empathy	r=0.010 P=0.853	r=0.010 P=0.858	r=0.085 P=0.290	r=0.031 P=0.577	r=-0.021 P=0.707

DISCUSSION:

Today, assessment of health care quality is one of the principles of improving service quality in which the service recipients/clients play a key role. Without the involvement of service recipients, it is impossible to achieve high quality health services. Therefore, the most basic steps in developing quality improvement programs involve understanding the service recipients' perceptions and expectations of service quality, determining the quality gap, and adopting solutions to bridge this gap. It should be noted that the quality gap in different dimensions varies from the viewpoint of different demographic groups. The present study was conducted with the aim of evaluating the quality of the Package of Essential Non-communicable (PEN) disease offered in the Eastern Health Center of Ahvaz from the point of view of patients in 2018.

According to the results of this study, in all dimensions of the quality of health services, there is a negative quality gap, and in all these dimensions, the mean scores of expectations were higher than those of perceptions. This result is in line with the results of Mollahosseini [15], Kazemnezhad [16], Motaghed [17], Khaki [18], Adepoju [19], Amaravathi [20], and Manulik [21]. The negative quality gap indicates that there is a gap between the expectations of the clients and their perceptions of the services; in other words, their expectations are not sufficiently met.

The results of the present study showed that the smallest quality gap was seen in the assurance dimension (0.98). The assurance dimension involves the knowledge and skill of the staff and the service providing organization in promoting good trust in the service recipient [17]. The results of this study showed that the patients to some extent have trust in the service providers, and they receive the care they need with high security and relaxation. This is because they have trust in the knowledge and skills of service providers. We believe one of the reasons for the small gap in the assurance dimension of this study is that the healthcare providers offer their services with politeness and modesty. Also, enjoying high levels of knowledge and skills in responding to the specific needs of the respondents, they have been able to create enough trust in their clients who receive the services they need with a sense of security and relaxation. Of course, this is not absolute, but compared to other dimensions, a better performance was observed in this dimension. This conclusion is in line with the results of Kazemnezhad [16], Sharifirad [22] and Aghamolaei [23] studies. However, inconsistent with our results were those of Mollahosseini [15], Safi [24] and Nabilou [25] where the smallest negative gap was observed in the empathy dimension, which could be attributed to the different locations of study.

Based on the findings of the current study, the responsiveness dimension had the next widest negative gap closely after empathy. Responsiveness is the willingness and desire of a service providing organization in serving recipients and providing timely service [17]. The results of this study showed that one of the important dimensions of responsiveness is the availability of the staff. Timely screening and risk management will be done, provided that the health centers and health authorities do not leave the clients waiting for them; rather, the clients should be informed that staff is available. Time is also an important element in the responsiveness dimension, and patients are more satisfied with centers which schedule visit times based on the occupation of the patients, admit the patients promptly without any undue delay, inform the patients of the time and duration of the care they need, and pay attention to the patient's opinion with regard to the number of monthly sessions, etc. This result is in line with those of Haghshenas [26] and Nabilou [25], but not consistent with those of Mollahosseini [25] and Motaghed [17], and this discrepancy could be attributed to differences in research population and sample.

The results of the study showed that in terms of mean negative quality gap, the dimension of reliability is in the third rank after the dimensions of empathy and responsiveness. Reliability is defined as the ability of the serving organization to keep the promises it makes accurately and continuously [17]. Responsiveness and commitment to clients and establishing a correct relationship with them, especially in the first visit, as well as timely provision of services and accurate maintenance of patient records, can increase their satisfaction. By contrast, any failure in considering these factors causes the recipients to lose a large amount of time and energy, ultimately bringing about their dissatisfaction. The results of Mohammadi [27], Adepoju [19] and Al-Damen [28] are similar to ours. However, the results of Tarahi [29] and Gholami [30], are not consistent with this study, maybe due to different sample sizes.

According to the results of the current study, the widest negative quality gap was observed in the empathy dimension (1.32). Empathy dimension is defined as the provision of caring, individualized attention to customers, especially according to their morale, so that customers feel that the organization understands them [24]. The results of this research show that paying special attention to each individual's values and emotions, showing interest in satisfying their needs, and being available for providing services are very important for the recipients of services. In fact, the nature of the dimension of empathy in a healthcare setting requires that doctors and service providers have a friendly approach to patients and provide a favorable environment without any discrimination, which encourages the public to use basic health services [20]. One of the reasons for the wide quality gap in the dimension of empathy in this study is because of the failure or inability to understand the specific needs of individuals or lack of special attention to them, and this is due to the fact that all people who come to receive the services of IraPEN have similar needs. It follows that receiving a similar service according to Package of Essential Non-communicable (PEN) disease apparently does not require service providers to understand specific needs and

pay special attention to them. However, these referrals are actually different in terms of gender, age, marital status, occupation, level of education, etc., and based on the nature of empathy, these people have unique values and emotions, which should be taken into account carefully by the service providers, without any discrimination and indifference to them. This ought to be done so that the patients are convinced that the organization and the healthcare providers have understood them. When referrals reach this level of awareness and trust in the empathy of service providers, they definitely become more timely and accountable towards health centers/bases to receive services. The results of this study are in agreement with those of Motaghed [17], Khaki [18], Tarahi [29], Aghamolaei [23], Amaravathi [20], Manulik [21] and Papanikolaou [31]. In these studies, based on the empathy dimension, it is believed that health is not achieved merely through treatment and that treatment is not done only through medications. Rather, the expectation of patients from the healthcare provider, their satisfaction and trust, empathy, respect, and responsiveness also play a definitive role. The results of Mollahosseini [15], Kazemnezhad [16], and Safi [24], however, are not consistent with this study, which could be due to differences in the population, sample, and the location of the research.

According to the findings of the study, after the dimensions of empathy, responsiveness, and reliability, the dimension of tangibles is ranked in the fourth place with a negative quality gap (1.02), having a negligible difference with reliability. The tangibles are factors related to the appearance of the equipment and tools available at the workplace [17]. According to our results, the promotion of quality in terms of the tangibles should also be taken into account. Appropriate and high quality equipment and facilities of the healthcare centers and bases, appropriate signs and guides in the centers, and clean appearance of the environment and staff can certainly bring about more satisfaction of the patients. This result is consistent with that of Khaki [18] and Mohammadi [27], but inconsistent with Mollahosseini [15], Kazemnezhad [16], Safi [24], Adepoju [19], Amaravathi [20], and this inconsistency is possibly due sample size, the research population, and the place and time of the study.

The results of this study showed that there is a significant linear relationship between the level of expected and perceived responsiveness among the participants. Also, there was a significant linear relationship between expected assurance and perceived responsiveness. The relationship between these dimensions in the quality of IraPEN services in the Eastern Health Center of Ahvaz indicates that the studied patients are more satisfied with this dimension because the smallest negative quality gap was observed between the expected and perceived responsiveness, and between the dimensions of assurance and responsiveness.

Due to its inherent constraints, using questionnaire as a study tool challenges the conversion of qualitative data into quantitative ones, and the present research is no exception to this rule. Answering the questions of the questionnaire depends on the judgment of the subjects. Therefore, the tendencies, prejudices, experiences, tastes and interests of individuals can affect the results of the study. In this study, the evaluation of the quality of IraPEN services was based only on the feedback received from the referrals to the health center, and the views of other stakeholders, such as the doctor and other healthcare providers, were not considered.

Conclusion:

The results of this study showed that there is a gap in the structure of the IraPEN service delivery at the Eastern Health Center of Ahvaz in all five dimensions of quality, and the clients have higher expectations about the quality of the services provided. The empathy dimension had the widest negative gap in this study. Given the fact that the negative quality gaps in different dimensions are close to each other, it seems that other dimensions of quality in addition to empathy should be addressed by the authorities in order to resolve the problems. Overall, the gap between perception and expectation can be due to various reasons such as lack of human resources, inadequate equipment, financial instability, instability of managers in the health system, hasty planning, service providers' ignorance of the needs and requests of clients, unauthorized allocation of available resources, high expectations of clients and their lack of knowledge, non-compliance of the network system with the needs of non-communicable diseases, poor notification and information, non-compliance of training with executive work, conflict of government policies with health interests, lack of enforcement for the execution of laws, etc. This study can be generalized to the IraPEN service providers elsewhere in the country. Future studies are recommended to compare and assess the quality of services from the point of view of providers and recipients of services in the health sector, because a combination of internal and external views of quality can provide a better image for managers and policy providers. Also, the development of a specialized tool based on SERVQUAL or other quality assessment tools in the health sector will be fruitful.

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Conflict of interest:

The authors declare no conflicts of interest.

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