

# Research Paper: A Comparative Study of the Rehabilitation Patients' Satisfaction With Public and Private Centers



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## ABSTRACT

**Introduction:** The success of rehabilitation centers depends on several factors, one of the most important of which is patient's satisfaction. Therefore, suitable instruments must be used to assess the quality of services in rehabilitation centers.

**Materials and Methods:** In this research, we used the random sampling method to select the sample and the survey research method to collect data. The statistical population included all patients visiting the selected rehabilitation centers of Tehran City. In this regard, 4 rehabilitation centers; Rofaydeh Rehabilitation Hospital (public), Shohadaye Tajrish Hospital (public), Imam Zadeh Hassan Rehabilitation Center (private), and Arman Rehabilitation Center (private) were selected. Given the infinite statistical population size, the sample size was calculated using the scientific research methodology and Cochran's sample size formula. The statistical sample size estimated for the infinite statistical population of this research was 486 with 95% confidence level. The research variables were assessed using a researcher-made questionnaire called the "patient's satisfaction with rehabilitation services questionnaire". The content and face validity of the questionnaire was approved by the experts. The estimated reliability of the questionnaire was 0.83 using Cronbach's  $\alpha$  coefficient method. The descriptive and inferential statistics methods (i.e. the independent t test and 1-way analysis of variance) were used to analyze the data.

**Results:** The research findings reflected the clients' satisfaction with the rehabilitation services and their components (i.e. reception services, therapist services, and waiting time) in public and private hospitals. Also a significant difference was found between the levels of patients' satisfaction with rehabilitation services in private and public hospitals ( $P \leq 0.005$ ), and clients were more satisfied with the services of public hospitals than private hospitals.

**Conclusion:** In addition, there was no significant difference between the levels of patients' satisfaction with rehabilitation services with respect to demographic variables (including age, education, gender, and respondent), but a significant difference was observed in terms of ward. Finally, the results of the Friedman test revealed that satisfaction with therapist services had the first rank followed by patient's satisfaction with the waiting time and then with reception (admission) services.

## Keywords:

Client satisfaction,  
Rehabilitation, Reception  
services, Therapist services,  
Public and private hospitals

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## 1. Introduction

Generally, the problem with the quality of services are mostly seen in organizations that work hard enough to understand and meet clients' needs and expectations. The lack of a direct communication with clients prevents the decision makers and planners to meet the expectations that eventually creates a quality gap. A major step in reducing this gap requires understanding client/customer expectations and perceptions of the quality of services, in other words, measuring the gap. Understanding and assessing client's expectations and perceptions is an essential component of improving the quality of services [1]. Today, humankind life is increasingly moving towards the service-based economy. In other words, services are no more considered a small part of the economy but the key core of the economy. Services are undoubtedly extend beyond banking, postal, insurance, health, and training services, because most products consist of services, too. In fact, a wide range of products and services rely on service-based activities to attain competitive advantage [2].

Competitive advantage over the quality of services is a key strategic issue. Organizations which provide higher quality services experience more customer satisfaction, a prerequisite for competitive advantage [3]. The service sector is considered an increasingly growing component of the global economy and service organizations play a significant role in this trend. The quality of services plays a major role in the competitive advantage of companies and service organizations [4]. The market-centered mechanisms can reduce the expenses of service organizations. Therefore, acknowledging client demands and honor them are a market-centered mechanism that considerably contributes to the enticement of customers. With the expansion of business and economic dimensions of the service sector, quality management was more stressed in this sector. However factors such as fragility of services, inseparability of services from the service providers, and the time and location of services increase the dependence of service quality on vague factors and make the assessment of service quality more complicated [5].

Pirmohammadi assessed the senior clients' satisfaction with the care provided in the public assisted living homes in Tehran City and reported that the highest and lowest levels of dissatisfaction were the quality of food (58%) and entertainment facilities (18%), respectively [6]. In addition, satisfaction had a significant relationship with age, gender, previous job, and the cause of

admission. Jafari studied and compared the status and level of clients' satisfaction with the public and private out-patient rehabilitation centers of Kurdistan Province and based on the client opinions realized that the score of physical status, availability of services (including physical, financial, and temporal availability), quality of social relations, and the quality of the services of these public and private out-patient rehabilitation centers varied between 9.60 and 15.70 on a scale of 0 to 20 [7]. In addition, the mean scores of customer satisfaction with public and private centers were 12.48 (good) and 12.15 (good), respectively. Moreover, the clients of public centers were more satisfied with the services. In a study entitled "assessing the validity of the Spanish version of the satisfaction of physiotherapy patient questionnaire (risk mode)", Paul Beattie [8] concluded that patient's satisfaction was strongly related to the professional behavior of the physiotherapist. Christoph Boller [9] in a study entitled "Quality and comparison of antenatal care in public and private providers in the United Republic of Tanzania" compared the quality of public and private first-tier antenatal care services in Dar es Salaam united republic of Tanzania using defined criteria.

The results show that both public and private providers are reasonably good with regard to the structured and interpersonal aspects of quality of care. However, both are poor when it comes to technical aspects of quality. Pernerger et al. in their study evaluated patients' satisfaction in relation to private and public health care providers and reported that patients treated in privately owned hospitals or clinics expressed more satisfaction than patients treated in government-owned hospitals or clinics [10].

Olatunji et al. assessed patients' satisfaction with the physiotherapy services in a Nigerian Federal Medical Center without comparing it with the physiotherapy departments of other hospitals [11]. Studies on the assessment of quality of care are generally conducted at the level of the health care providers or hospitals where the relevant data are collected at level of the individual patient [12]. Odebiyi [13] concluded that subjects who received physiotherapy in private hospitals were more satisfied than those who received physiotherapy in public hospitals. Devreux et al. reported that patient's satisfaction was significantly different ( $P=0.001$ ) in different hospitals (private, public, and teaching) [14]. About 88.5% of patients in the teaching hospitals were satisfied with the rehabilitation services compared to 77% in the public ones and 75.7% in the private hospitals. Moreover, there was no statistically significant correlation between staff's job satisfaction and patients' satisfaction.

In this research, we sought to evaluate the patients' satisfaction with rehabilitation services in selected public and private rehabilitation centers. We also want to compare patients' satisfaction status among the two groups of public and private rehabilitation centers

Beattie et al. examined the patients' satisfaction with the services of 21 physiotherapy centers and reported a satisfaction level of 80% [15]. Roush and Sonstören reported a strong correlation between patient's satisfaction and the physiotherapist-patient relationship, but he found no significant correlation between patient's satisfaction and other environmental factors (such as parking duration and type of equipment) [16]. The most important factors involved in patient's satisfaction were the physiotherapist's behavior and allocation of adequate time to the patient.

## 2. Materials and Methods

The study population included all of the clients of the selected rehabilitation centers of Tehran City, which included the following four centers: Rofaydeh Rehabilitation Hospital (public), Shohadaye Tajrish Hospital (public), Imam Zadeh Hassan Rehabilitation Center (private), and Arman Rehabilitation Center (private). The simple random sampling method was used in this research, and given the infinite size of the statistical population, the sample size was determined using the scientific research methodology and Cochran's sample size formula. The resulting statistical sample size estimated for the infinite statistical population was 486 at the significance level of 95%.

The research data were collected using a researcher-made questionnaire called the "patient's satisfaction with rehabilitation services questionnaire". This questionnaire consists of two parts. Part one includes five questions about demographic variables, with one question addressing the ward referred to and four questions

about gender, age, and education of the respondents or the person who completed the questionnaire (the patient or his/her companions). The second part investigates the indicators' status of the different dimensions of customer satisfaction with the rehabilitation services.

After obtaining an introduction letter from the authorities, the researcher directly visited the randomly-selected samples group and handed them the questionnaires. After calculating the scores of each respondent, the data were analyzed in SPSS 18. The questionnaire, which assessed satisfaction with therapist services, satisfaction with reception services, and satisfaction with the waiting time, was developed based on Aragon's model [17]. The research data were analyzed in using the descriptive and inferential statistics methods. In the descriptive statistics section, statistical characteristics such as frequency, percentage, mean, and standard deviation were used, and in the inferential statistics section, the 1-sample t test, the independent t test, and 1-way analysis of variance methods were utilized.

## 3. Results

The 1-sample t test was carried out to study the patients' satisfaction with the rehabilitation services (namely reception services, therapist services, and waiting services) in public hospitals and the results are presented in Table 1.

According to Table 1, the mean scores of patients' satisfaction with rehabilitation service components, namely reception services, therapist services, and waiting time, in public hospitals were 4.58, 4.61, and 4.62, respectively. The calculated t value was larger than the t value in the Table 1. Therefore, the score of patients' satisfaction with rehabilitation services and its components (reception services, therapist services, and waiting time) in public hospitals was more than the average score and was statistically significant.

**Table 1.** Comparison between the scores of patients' satisfaction with rehabilitation services (i.e. reception services, therapist services, and waiting time)

Component	Mean	SD	t	df	P
Satisfaction with reception services	4.58	0.473	70.339	486	0.001
Satisfaction with therapist services	4.61	0.444	73.065	486	0.001
Satisfaction with waiting time	4.62	0.502	58.943	486	0.001

**Table 2.** Comparison between the scores of patients' satisfaction with rehabilitation services and its components (i.e. reception services, therapist services, and waiting time) in private hospitals with a hypothetical average score of 3

Component	Mean	SD	t	df	P
Satisfaction with reception services	4.53	0.502	68.339	486	0.001
Satisfaction with therapist services	4.54	0.503	70.065	486	0.001
Satisfaction with waiting time	4.44	0.620	49.943	486	0.001

JMR

The 1-sample t test was carried out to study the patients' satisfaction with the rehabilitation service components (namely reception services, therapist services, and waiting services) in private hospitals and the results were presented in [Table 2](#).

According to [Table 2](#), the mean scores of the patients' satisfaction with rehabilitation service components, namely reception services, therapist services, and waiting time, in private hospitals were 4.53, 4.54, and 4.44, respectively. The calculated t value was larger than the t values in the [Table 5](#), [6](#), [8](#), [9](#). Therefore, the scores of patients' satisfaction with rehabilitation services and its components (reception services, therapist services, and waiting time) in private hospitals were more than the average score and statistically significant.

According to the independent t test results ([Table 3](#)), the mean levels of clients' satisfaction with rehabilitation services are not the same. Based on the mean scores of public and private rehabilitations centers in this test, the mean levels of clients' satisfaction with the services of public and private rehabilitation centers were 4.60 and 4.49, respectively. Hence, the clients' satisfaction with the rehabilitation services of the public centers was more than that from the private centers.

The independent t test and ANOVA (1-way analysis of variance) methods were utilized to analyze the effect of personal characteristics of the respondents (namely gen-

der, age, academic degree, respondent, and ward). The results of the ANOVA and independent t tests on gender, age, academic degree, and respondent (as personal characteristics) imply that these four personal characteristics did not influence the responses to the questionnaire. Although the significance level of these four characteristics was over 0.05, the results of the ANOVA test regarding the ward type and rehabilitation center type (as two personal attributes) suggest that these two characteristics affect the responses. Since the significance level of these two characteristics was smaller than 0.05, these two characteristics statistically influenced the responses.

In the inferential analysis, the Friedman test was used to identify the rehabilitation services that satisfied the patients the most. Considering the Friedman test results, satisfaction with therapist services possessed the highest rank followed by satisfaction with waiting time and reception services.

#### 4. Discussion

According to the research findings, the mean scores of patients' satisfaction with rehabilitation service components, namely reception services, therapist services, and waiting time, in public hospitals were 4.58, 4.61, and 4.62, respectively. The calculated t value was larger than the t value in the [Tables 4](#), [7](#), [10](#). Therefore, the scores of patients' satisfaction with rehabilitation services and its components (reception services, therapist services,

**Table 3.** Comparing the mean scores of patients' satisfaction with rehabilitation services in public and private hospitals

Statistical Criterion Variables	Gender	Mean	SD	t	P
Satisfaction with rehabilitation services	Public	4.60	0.429	2.449	0.023
	Private	4.49	0.482		

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**Table 4.** Results of the independent t test carried out on the effect of gender on the responses

Statistical Index Variables	Gender	Mean	SD	t	P
Customer's satisfaction	Male	4.57	0.441	1.232	0.219
	Female	4.52	0.485		

JMR

**Table 5.** Results of the ANOVA analysis of the effect of age on responses to the research questionnaire

	Sum of Squares	df	Mean Square	F	Significance
Inter-group	0.781	4	0.195	0.926	0.449
Intra-group	101.615	482	0.211		
Total	102.395	486			

JMR

**Table 6.** Results of the ANOVA analysis of the effect of academic degree on responses to the questionnaire items

	Sum of Squares	df	Mean Squares	F	Significance
Inter-group	1.354	4	0.333	1.615	0.169
Intra-group	101.041	482	0.210		
Total	102.395	486			

JMR

**Table 7.** Results of the independent t test on the effect of respondents on the answers provided to the research questionnaire

Statistical Index Variables	Gender	Mean	SD	t	P
Customer satisfaction	Patient	4.57	0.441	1.021	0.308
	Patient companion	4.53	0.478		

JMR

**Table 8.** Results of ANOVA analysis of the effect of the ward referred to on the responses provided to the question

	Sum of Squares	df	Mean Squares	F	Significance Level
Inter-group	2.424	2	1.212	5.867	0.003
Intra-group	99.972	483	0.207		
Total	102.395	486			

JMR

**Table 9.** Results of ANOVA analysis of the effect of the rehabilitation center type on the responses to the questionnaire

	Sum of Squares	df	Mean Squares	F	Significance Level
Inter-group	1.302	1	1.302		
Intra-group	101.093	485	0.208	6.247	0.013
Total	102.395	486			

JMR

and waiting time) in public hospitals were more than the average score and statistically significant. Companies increasingly realize that human resources play a substantial role in the development of the customer-friendly approach. Human resources departments in the world of trade spare efforts to increase client's satisfaction. They accomplish tasks such as recruitment, training, education, and assessment to provide for and support the employees and enable them to use the provided facilities and supports to increase their relationships with the clients [18]. Public hospitals are no exception and must focus on their human resources to win clients' satisfaction. In fact, the study public hospitals follow specific rules to please patients. Their personnel are determined, hardworking, and patient; they properly accomplish their tasks and the quality of services is satisfactory. They respect others and treat their colleagues properly and kindly. They consult each other and utilize opinions of others. As a result, they provide better services to their clients and their patients are satisfied with the quality of services, because hospitals value their needs and demands and meet their expectations. In addition, provision of products and services are provided to the clients on time and there is mutual trust between the clients and the organization.

According to the research findings, the mean scores of patients' satisfaction with rehabilitation service components, namely reception services, therapist services, and waiting time, in private hospitals were 4.53, 4.54, and

4.44, respectively. The calculated t value was larger than the t value in the Tables 4, 7, 10. Therefore, the score of patients' satisfaction with rehabilitation services and its components (reception services, therapist services, and waiting time) in public hospitals was more than the average score and was statistically significant. The results of the independent t test suggest that the mean scores of patients' satisfaction with rehabilitation services are not similar. On the other hand, the mean scores of patients' satisfaction with the public and private rehabilitation centers were 4.60 and 4.49, respectively. Hence, the patients are more satisfied with public rehabilitation centers. Moreover, the mean overall score of satisfaction with public and private centers are 4.60 and 4.49, respectively. These figures indicate that patients' satisfaction with public rehabilitation centers is more than private centers. The results of this research are in line with the findings reported by Jafari [7], who examined and compared the satisfaction of patients with the outpatient services of public and private rehabilitation centers in Kurdistan Province.

The research findings also showed no significant difference between the levels of satisfaction of patients with rehabilitation centers in terms of demographic variables (i.e. age, education, gender, and respondent), but there was a significant difference in terms of ward. In the inferential analysis, the Friedman test was used to identify the rehabilitation services that ranked at the

**Table 10.** The results of the Friedman test concerning the ranks of factors influencing patients' satisfaction with rehabilitation services

Variables	Mean Rank	Priority	df	X	Sig.
Satisfaction with reception services	1.99	Third			
Satisfaction with therapist services	2.01	First	2	0.092	0.022
Satisfaction with waiting time	2	Second			

JMR

top with regard to the patients' satisfaction. Considering the Friedman test results, satisfaction with therapist services had the highest rank and was followed by satisfaction with the waiting time and reception services, which had the second and third ranks with a slight difference, respectively.

The research results are in line with the findings reported by Paul Beattie [8] reporting that patients' satisfaction was strongly related to the professional behavior of the physiotherapist.

Numerous studies have been carried out on the patients' satisfaction with special services of health care centers in Iran and abroad, but no study has been conducted to compare rehabilitation services of public and private hospitals and to rank the most important causes of patients' dissatisfaction with rehabilitation services in Tehran City. The research limitations were as follows: 1) failure of some patients to respond properly to the questions; 2) shortage of budget to attain the targets, and 3) lack of access to some of the useful articles on the research topic.

The research findings suggest that the waiting time has the second largest influence on the clients' satisfaction. Therefore, managers of rehabilitation centers are recommended to value timing and time management to reduce response time and improve timing precision and customer satisfaction in rehabilitation services. Using customer relations management services is recommended with an emphasis on time management. According to the results of this research, the reception services factor has the third rank in influencing the customer's satisfaction. Hence, the managers of rehabilitation centers are recommended to consider the importance of training the reception personnel and using proper administrative systems and processes for the admission of clients in increasing the clients' satisfaction with rehabilitation services. This area is perhaps more critical and important than other service areas, because the clients of treatment centers, especially rehabilitation centers, are more mentally vulnerable and fragile because of their physical conditions.

According to the results of the Friedman test (which was conducted to rank the factors influencing the satisfaction of clients of rehabilitation centers), the ranks of the following three factors differed slightly: 1. Satisfaction with reception services; 2. Satisfaction with therapist services; and 3. Satisfaction with waiting time. The test statistics also showed that the difference was insignificant. Hence, all of these three factors equally affect the clients' satisfaction with rehabilitation centers and

call for equal levels of attention. Since customer satisfaction is a fundamental marketing notion and business goal and since concern for this notion improves the quality of rehabilitation centers, the managers of rehabilitation centers are strongly recommended to measure client's satisfaction at least on a monthly basis and decide on the level of customer's satisfaction in monthly meetings of the performance improvement committee.

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## Conflict of Interest

The authors declared no conflicts of interest.

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