



Factors Affecting Patients' Preferences Based on the Mixing Factors of Marketing Services in Hospital Selection

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Abstract

Background: Today, the health care market has become a competitive market. Various factors affect the care of the hospital and the choice of hospital by patients. The present study aimed to investigate the effective factors on patients' preferences based on the mixing factors of marketing services in hospital selection.

Methods: This descriptive-analytic study was performed on 300 patients referred to educational hospitals in Iran in 2018. The instrument used was a researcher-made questionnaire include two sections (demographic and Patients' preferences questionnaire). Data were analyzed using descriptive and analytical.

Results: Among the 7 components, the highest and the lowest mean and standard deviation were related to staff (1.03 ± 3.89) and location (1.10 ± 2.96), respectively. The index value of the RMSEA for the compiled model is equal to 0.059, the comparative fit index (CFI) is 0.837 and the IFI index is 0.839. Employee component with a coefficient of 1.00 and price component with a coefficient of 0.72 had the highest and the least effective.

Conclusions: Staff and physicians and hospital space have the greatest role in attracting patients. Therefore, it is expected that the hospital management will make the essential planning, and by intervening in the process of work of physicians and staff.

Keywords: Patient preferences, Mixed marketing, Marketing of health services, Hospital.

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Introduction

Recurrence of the needs and expectations of patients are one of the most important tasks of health care institutions.¹ Accordingly, in 1983, the national health service (NHS) approved that all US healthcare providers should use patient feedback to control and adjust their plans, and these should be considered in evaluating training programs developed for nurses and patients.²

Since competition between hospitals to attract more patients and reduce health care costs and ultimately increased revenues have led to major changes in the structure and function of hospitals in recent years, therefore, evaluation of patients' views and opinions is of particular importance. Therefore, it is not desirable for hospitals to provide their services without regard to the needs and desires of customers and solely for their own interests. In today's competitive world, with the rise of the democratic approach, the customer issue

has become an extremely important issue for healthcare providers. In such a situation, providers must set up their services to ensure that healthcare is fair, equitable and accountable.³ From a lot of patients referred to the physician, a few of them will need to be hospitalized and undergo diagnostic and therapeutic procedures. But as a matter of fact, with the exception of patients referred from other centers, other patients do not randomly choose hospitals.⁴

Evidence demonstrates that patients are more sensitive to health care choices in comparison to past and are more likely to be involved in their health care. They ask for their diagnosis; they want to make sure their treatment is appropriate and respond when their expectations are not fulfilled.⁵ Therefore, in order to improve the quality of health care, it seems necessary that the problem of pivotal patient and attention to the needs and preferences of patients in their treatment. For this reason, research has been conducted to determine patient preferences for the services they receive.⁶ When customers have a good perception of the quality of health services and their opinions are taken into consideration, undoubtedly they will come back to the same hospital again in the future, and even suggest it to other relatives and friends.⁷

Not only Attention to patients' preferences is morally acceptable, but also it leads to Improve provision of care delivery and access to lasting care methods. This issue is important especially for patients who need and preferences are different from other patients.⁸ Paying attention to attract the customer (patient) in hospitals and health service provider organizations is important for several reasons. One of these methods is the Satisfaction of the hospital users, this leads to the satisfaction of providing them with hospital services and they advise others to go to the hospital if necessary. Another aspect is the recognition of services that along time had not been offered acceptable utility. Hospital managers should use their best efforts to resolve problems associated with such services.⁹ York express that patient satisfaction and attention to their desires is one of the essential elements of marketing and its acceptance in the health sector has been growing.¹⁰

Worldwide studies have also suggested different factors for choosing a hospital by patients. For example, Mossadegh Rad¹¹ factors of service prices, facilities, physical environment, personnel behavior, and hospital credibility and Roh have identified factors such as the number of beds, the number of services, the official license, the type of property, and the distance from the patient's place of residence.¹² Pawill also considers factors such as the organization's physical environment, service delivery, reputation and service customization¹³ as one of the most important reasons for

choosing a hospital by patients. Some studies have also influenced the physical environment of the hospital,¹⁴⁻¹⁹ the price of services,²⁰ the quality of services,^{21,22} and others, the variety of services^{23,24} and the recommendation of the physician²⁵ as factors affecting the choice patients.

Pawlush also considers factors such as the organization's physical environment, the attitude to provide services, popularity and reputation, and service customization¹³ as one of the most important reasons for choosing a hospital by patients. Despite given the multitude of factors that affect the patient selection, studying the preferences of customers in choosing hospitals and also identifying the most important factors in choosing hospitals is one of the most important programs of health care organizations. In this regard, the present study aimed to investigate the factors affecting the preferences of the marketing mix in patients referred to one of the Iranian hospitals.

Materials and Methods

The present study is a descriptive and analytical study that was carried out in 2018 by the cross-sectional method. The research population included patients referring to Yazd educational hospitals. A sample size of 300 patients was selected based on the Morgan table, which is a maximized model in structural equation modeling. The criteria for entering the study included patients who had visited the hospitals at least once. The data collection tool was a researcher-made questionnaire based on a marketing mix pattern which includes two parts of the patient's personal data (gender, marital status, level of education, age and Having insurance) and the questionnaire of 30 questions in 7 dimensions of service type (4 questions), price (2 questions), place (5 questions), promotion (8 questions), staff (5 questions), work processes (3 questions) and facilities (3 questions). The scale used in this questionnaire was Likert's 5-point scale and was started from (I agree very much) till (I strongly disagree). The validity of the tool was used after designing by 3 healthcare management specialists and 2 clinical staff. For reliability, Cronbach's alpha coefficient was used ($\alpha = 0.97$).

The data were collected in two shifts of the morning (7:30 am to 2:30 pm) and in the evening (from 14:30 to 18:30 on Saturdays to Thursdays and between 14:30 and 17:00 on Thursdays). The method of selecting individuals to enter the study was random. In cases where patients did not have enough literacy to complete the questionnaire, the researcher completed the questionnaire as a questionnaire from the patient. In order to comply with the ethical considerations for the study, authorities and authorities at the university were required to obtain the required permissions. Patients were also pleased to participate in the study while expressing the purpose of the research, they were assured that their information would be kept confidential. Data analysis was performed using SPSS 21 and Amos 18 software, using descriptive statistics such as mean and standard deviation, and analytical methods including confirmatory factor analysis.

Results

From the 300 patients examined, 43.3 were male and 91.7% were married. The highest age group was in the group

over 21-30 years old (45%). Regarding education, the most frequent had been in the group of diplomas with a frequency of 130 (43.3%) (table 1).

Among the 7 case studies, the highest and the lowest mean and standard deviation were related to staff (1.03 ± 3.89) and location (1.10 ± 2.96).

In the type of service component, the highest mean was related to the availability of new services (3.48), in the location component related to the green space of the hospital and the beauty of the sections (3.02), in the promotion component related to the doctor's opinion variable (3.72), in the staff component related to the attitude of other personnel (3.92) in the component of the process of performing the work related to the discipline of the services (3.80) and in the component of the facilities related to performing all kinds of Para clinical services (3.67) (table 2).

In the context of absolute indices, the Chi-square model is equal to 7.661 and the significance level is 0.001. Also, the degree of freedom model is 4. Also, the value of the second root means square root (RMSEA) for the model is 0.059, which is lower than 0.08 and indicates the model's acceptability. Additionally, the fitting index (CFI) is equal to 0.837 and the IFI is 0.839, which is more than 0.80. And represents a very good fit for the model. Generally, according to table 2, it can represent that the model has a good fit and, in other words, the developed model is acceptable (table 3).

The results showed that the correlation coefficient of all variables was higher than 0.5. Therefore, the obvious variables in this model are a reliable scale for calculating patient preferences. In the above model, the component of employees with a coefficient of 1.00 and a price component with a coefficient of 0.72 had the highest and the least effect (Figure 1).

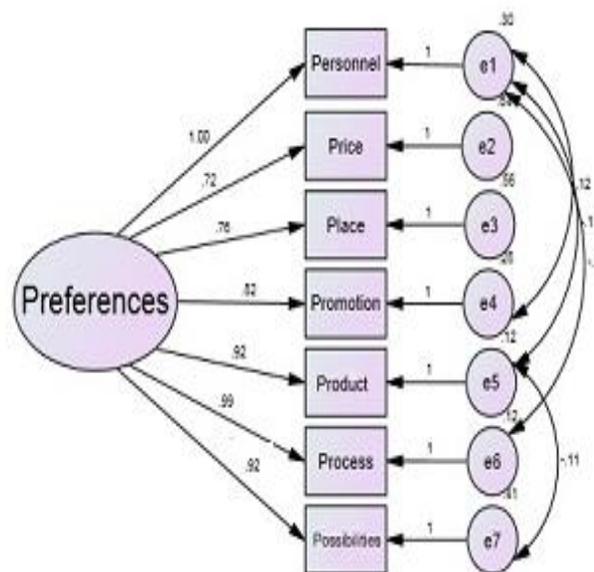


Figure 1. The components of the model affecting patients' preferences

Table 1. Demographic data of the patients participating in the study (N = 300)

| Variable | type | Abundance | Percentage |
|--------------------|-----------------------------|-----------|------------|
| gender | Man | 43.3 | 130 |
| | Female | 57.7 | 170 |
| marital status | Single | 91.7 | 275 |
| | Married | 8.3 | 25 |
| Having insurance | Yes | 92 | 276 |
| | No | 8 | 24 |
| Level of Education | illiterate | 3.3 | 10 |
| | Under the diploma | 18.3 | 55 |
| | Diploma | 43.3 | 130 |
| | Academic | 35 | 105 |
| Age | Under 20 years old | 5 | 15 |
| | Between 21 and 30 years | 45 | 135 |
| | Between 31 and 40 years | 31.7 | 95 |
| | Between 41 and 50 years old | 10 | 30 |
| | 51 years and older | 8.3 | 25 |

Table 2. Descriptive statistics of the factors affecting patients' preferences in referring to the hospital (N = 300 people)

| Components and variables examined | | Average | Standard deviation | Average | standard deviation |
|-----------------------------------|---|---------|--------------------|---------|--------------------|
| Service type Alpha = 0.91 | existence new services | 3.48 | 1.42 | 3.38 | 1.23 |
| | The existence of consulting services | 3.32 | 1.36 | | |
| | Existence of specialty for disease | 3.35 | 1.36 | | |
| | Existence of a variety of facilities | 3.4 | 1.37 | | |
| Price Alpha = 0.80 | The appropriate paid share price | 3.77 | 1.17 | 3.8 | 1.11 |
| | Kind of insurance | 3.83 | 1.26 | | |
| Place Alpha = 0.85 | Interior location of hospital space | 2.97 | 1.35 | 2.96 | 1.1 |
| | Hospital green space | 3.02 | 1.32 | | |
| | Proximity to the place of residence | 2.92 | 1.38 | | |
| | Appearance of the hospital | 2.92 | 1.45 | | |
| | Beauty sections | 3.02 | 1.4 | | |
| Promotion Alpha = 0.91 | Welcome to the hospital | 3.57 | 1.27 | 3.43 | 1.02 |
| | Hospital dating | 3.47 | 1.31 | | |
| | Hospital notification | 3.27 | 1.34 | | |
| | Promote friends and relatives opinion | 3.38 | 1.34 | | |
| | Doctor's opinion | 3.72 | 1.28 | | |
| | Consult with informants | 3.18 | 1.36 | | |
| Staff Alpha = 0.95 | Consult with staff at health centers | 3.42 | 1.38 | 3.89 | 1.03 |
| | personal experience | 3.5 | 1.19 | | |
| | How to deal with the medical staff | 3.72 | 1.26 | | |
| | How to treat a doctor | 4.13 | 1.02 | | |
| Work processes Alpha = 0.92 | How to deal with other personnel | 3.92 | 1.11 | 3.73 | 1.1 |
| | Skill doctors | 3.82 | 1.16 | | |
| | Administered responsibly | 3.8 | 1.22 | | |
| Possibilities Alpha = 0.94 | The speed of The service | 3.58 | 1.29 | 3.42 | 1.38 |
| | Careful service | 3.75 | 1.23 | | |
| | Discipline carrying out services | 3.8 | 1.1 | | |
| | Performing a variety of paraclinical services | 3.67 | 1.39 | | |
| | Existence advanced equipment | 3.35 | 1.51 | | |
| | The existence of variety of equipment and devices | 3.25 | 1.5 | | |

Table 3. Results of general indicators of structural model fit

| Fit indices | Symbol | Amount |
|---|----------------|--------|
| Chi-square | X ² | 8.363 |
| Degrees of freedom | DF | 3 |
| Pvalue for the fit of the model test | P value | 0.015 |
| The second root estimate of the mean of variance of the approximation error | RMSEA | 0.072 |
| Incremental fit index | IFI | 0.985 |
| Adaptive fit index | CFI | 0.985 |

Discussions

The results of the survey of the health status of different countries indicate that these countries are seeking to change the system of care provision and provide better services. Among these, the hospital is the center of gravity for providing care that is considered to be the most important focal point for care in various ways.²⁶ However, a general overview of the current situation of hospitals in the country shows that most of them are faced with increased demand, congestion and more dissatisfaction with access to services and their quality. Therefore, it should be necessary to pay more attention to the patients' expectations and preferences to the most important providers of health care services in order to secure their needs and expectations and their preferences. In this regard, the present study aimed at influencing factors on patient preferences based on the marketing mix.

The results of the study showed that the highest mean and standard deviation in the hospitals was related to the presence of staff and Experienced physicians. In Jacob's study and staff and physicians have had the most important priority from the perspective of patients to choose a hospital.⁹ Lux²⁷ factors such as private doctors, family and friends' recommendations, quality of treatment and Hospital availability level are important factors in choosing a hospital that is the similarity to the results of the present study. Also Miller et al., in an attempt to determine the effective factors in choosing a hospital to receive a service by quality patients, showed that well-known hospital factors, good hospital design, a good environment, a place to park a car and high standards of cleanliness the results of this study are similar.²⁸ Baldwin and his colleagues have also considered factors such as accurate management, facilities such as observing standards relating to cleanliness, respect for patient confidentiality and respect for patient's personalities, which is one of the most important patient preferences from the viewpoint of patients and authorities.²⁹ Green and his colleagues found important factors such as facilities for parking the car, hospital auxiliary facilities and famous hospitals,³⁰ which were found in the present study.

From the view of patients, the factors, the processes of work and environmental factors were important in the following rankings. In Akinci studies in Turkey, woodside et al., Gotlieb and Douglas, physical and physical appearance, hospital facilities and design were among the most important reasons for choosing a hospital for patients.^{5,31-33} In fact, since patients face to their space and environment in their first encounter with hospitals, this has a dramatic effect on patient attention. Although enjoying the right physical condition while improving the mental image of patients, it also makes the recipients comfortable and comfortable.

Since the mean of all the factors examined from the viewpoint of patients 2 and more, shows that all factors have a relatively high role in choosing a hospital. Therefore, changing the attitude of the management of health centers to the management of patient preferences is become necessary, due to in this way, the client or patient is considered to be the main element and it is important to provide what is desirable and appropriate for them. Managers of health centers in the competition scene with other centers need to maintain their clients' satisfaction and their preferences in their strategic plans

to protect their clients and attract more visitors. This is why researches related to the evaluation of hospital services from the point of view of patients and their preferences in the healthcare marketing industry have grown steadily.

The results of the study showed that staff and physicians and hospital space have the greatest role in attracting patients. Therefore, it is essential that hospital management focuses on the two elements of doctors, staff and hospital space. Hospital management is expected to plan for the necessary adjustments and, by intervening in the process of work of physicians and staff, and also provide the conditions that patients receive their service in their accurate hours without a lack of physicians.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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