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Treatment of patients in the health care system and achievement of quality services

Almir Jagodic ¹, Elvedin Osmanovic ^{2,*}, Irma Ikanovic ³ and Belkisa Hodžić ⁴

¹ Department for physical medicine and rehabilitation, Public Health Center Zivinice, Zip code 75270, Bosnia and Herzegovina.

² Hemodialysis Center, Public Health Center Zivinice, Zip code 75270, Bosnia and Herzegovina.

³ Emergency Medical Care, Sarajevo, Zip code 71000, Bosnia and Herzegovina.

⁴ Department of dentistry, Public Health Center Zivinice, Zip code 75270, Bosnia and Herzegovina.

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Abstract

The health system is a normatively accepted position of the social community and the state in the area of protection and improvement of the health of the population, whereby all the factors that realize it work in an organized and constantly developing manner in terms of mutual division of labor, as integral parts of the general social system. It is a process that aims to achieve efficiency in the process of working with patients, in order to achieve their satisfaction. The main purpose of the research is to investigate, determine the direction in relation to patient satisfaction with the provided/received medical care/service, i.e. the quality of interaction, taking into account: medical staff, their attitude towards patients and the environment in the health facility. The responsibility for providing sufficient quality and quantity of health care rests with health care professionals including doctors, nurses/technicians, management, non-medical staff, but also health care users. Institutions must meet the demands of medical workers, but there must also be the will of the administration so that medical workers fulfill their obligations. 200 users of medical services in three Public Health Institutions in Bosnia and Herzegovina participated in the survey of patient satisfaction with the quality and safety of medical services. A total of 200 examined patients filled out the questionnaire. In our work, 54.17% of patients of both sexes are satisfied with providing advice and a good way of treatment.

Keywords: Patient; Health System; Satisfaction; Success

1. Introduction

By system we generally mean a set of interconnected elements that together lead to the achievement of goals in the environment in which the system exists. The healthcare system is constantly under the watchful eye of the public and the media, precisely for the reason that the most precious thing is health and life. Health represents a set of physical, psychological and social well-being, and health impairment is the main risk of every individual, and the field of health observation is part of both health and social institutions. The state forms health insurance and protection systems in response to health disorders. Each country decides which model of health insurance it will apply, and accordingly, which method of financing it. The availability of healthcare to citizens also depends on these models. The health system is a normatively accepted position of the social community and the state in the area of protection and improvement of the population's health, where all the factors that realize it work in an organized and constantly developing manner in terms of mutual division of labor, as integral parts of the general social system. The health system can be defined based on the relationship between users, insured persons, health institutions and regulators, which together form the health insurance system.

* Corresponding author: Elvedin Osmanovic

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Generally speaking, the goals of health policy in most countries of the world are:

- Prolonging the life of residents;
- Strengthening the health of the population as part of improving the quality of life;
- Accessibility to everyone;
- Financial risk insurance.

The three main participants in the health care system are:

- Patients or users of health services;
- Health institutions;
- Intermediaries (eg insurance companies).

The basic elements of the health care system are:

- Human resources,
- Organization and administration,
- Management,
- Financing and provision of health services to the population.

Indicators of health policy according to quality and the mirror of quality

- Indicators of health policy according to the quality of services are:
- Laws that guarantee equal and accessible health care for all,
- Efficient distribution of money in healthcare, as well as other resources,
- Community participation in achieving health for all.

By the health care financing system, we mean a set of principles, mechanisms and methods, by means of which the process takes place:

- Revenue collection,
- Pooling of funds,
- Purchasing services and providing health care.

1.1. Patient satisfaction with the healthcare system

In order to achieve patient satisfaction, medical employees must work daily to improve the quality of work in all medical institutions. It is a process that aims to achieve efficiency in the process of working with patients, in order to achieve their satisfaction. Responsibility of providing quality and quantity of sufficient health care lies with health care employees including doctors, nurses / technicians, management, nonmedical staff, but also those who use health care [1]. It is important to constantly make efforts in the field of healthcare in order to improve the quality of medical services and maintain health. Therefore, very often medical workers believe that the best indicator of their work and commitment is the health status of the population. However, medical workers very often forget that patient satisfaction with the services in the healthcare system is also important, which leads to successful prevention and treatment of diseases. Sick and injured people want fast and safe medical care, good communication with staff, respect, understanding and respect 62 Elvedin Osmanovic et al.: Patient Satisfaction as a Predictive Factor of Treatment Success of medical ethics [2]. Previously, numerous studies have shown that patients who cooperate with their doctor are satisfied with the health service, which supports the claim that it is very important for the doctor to exchange information with the patient that are important for accurate diagnosis of their health problem and adherence to recommended medical treatment of their diseases [3]. Below are the goals of manuscript: Specific goals are aimed at the following research questions: 1) to study/determine - whether there is a positive relationship between access to the facility and patient satisfaction; 2) to explore / determine - whether there is a positive relationship between the behavior of doctors and patient satisfaction; 3) to explore / determine - whether there is a positive relationship between the behavior of doctors and patient satisfaction; A competitive Questionnaire for Patient Satisfaction Survey - Agency for Quality and Accreditation in Health Care in the Federation of Bosnia and Herzegovina (AKAZ) was used for the purpose of the research, which consists of two socio-demographic questions, gender and age (5 age categories) of respondents. Those are: 1) satisfaction with the institution; 2) doctor satisfaction; 3) nurse satisfaction; 4) satisfaction

with the premises of the institution. 2. Achieving Quality in Healthcare System is a set of interrelated elements that together lead to the achievement of goals in the environment in which the system exists. The health care system is a normatively accepted position of the social community and the state in the field of protection and improvement of population health, where all factors that implement it act in an organized and continuous development in terms of mutual division of labor, as integral parts of the social system. The healthcare system can be defined on the basis of the relation between beneficiaries, insured persons, healthcare institutions and regulatory authorities that combined make up the health insurance system [4]. The first interaction of the patient with the institution, doctor, nurse and environment in the medical institutions plays an important role in forming experience and emotions of the patient. If a first meeting is positive, a positive cycle opens between the patient and the medical institution [5]. On the other hand, if the meeting does not go well, it will be difficult to adequately implement the further process of communication or treatment.

2.1. Motivation of Medical Personnel Providing rewards and achieving the goals of healthcare workers is a condition for motivation. Institutions must meet the requirements of medical workers, but there must also be a political will as well in order for medical workers to fulfill their duties. Motivated employees will be more satisfied, more productive, patient care will be better, and that's the goal. The complexity of motivation is a complex process dominated by various factors controlled by management [6]. The better the motivation, the faster the process of developing quality health services will be [7]. Motivation is negatively affected by: 1) mobbing, 2) stress, 3) interpersonal relationships, 4) concern for existence, 5) poor working conditions, 6) unequal distribution of work tasks [8]. Salary allowances, financial incentives, fees, education subsidies, and other monetary benefits are the material aspect of motivation. Reputation, recognition, privileged position are intangible motivating factors. All this is a condition for increasing productivity [9]. Communication between employees and managers in the healthcare sector is very important because it allows a flow of information, problem identification, and at the same time creates a sense of security, belonging and self-confidence in employees. The stages of the motivation process in healthcare organizations are associated with setting a goal, taking measures and achieving a goal [10].

2.2. Quality Measurement Modern way of life and work lead to the fact that patients are very often disappointed by the commercialization, bureaucratization of medicine, which leads to a weakening of long-distance relationships: medical institution-doctor /other medical personnel-patient [11]. Therefore, periodic surveys (measurements) of patients' satisfaction with provided medical services are recommended and / or implemented in order to correct existing decisions, plans based on the obtained results, i.e. implement continuous education of doctors / other medical staff in order to increase patient safety and trust as a basis for quality of health care [12]. Healthcare as a service activity wants to provide the best possible services, better financial operations, and is interested in providing better quality of services to patients. [13]. In order to know whether service is provided in quality way it is necessary to measure it. Expertise and communication equally affect the quality of services as well as patient expectations. There is also a certain problem in measuring quality, because quality does not have tangible and precise parameters that could be measured [14]. Berry and Zeithaml have developed the SERVQUAL or Service Quality model as a starting point for measuring service quality. This service quality model has five characteristics: reliability, safety, tangibility, understanding and responsiveness. This method of measurement aims to measure the differences in expectations from those provided, and thus show the level of service quality.

The health care system is constantly under the watchful eye of the public and the media, precisely for the reason that the most precious thing is health and life. Health represents a set of physical, psychological and social well-being, and health impairment is the main risk of every individual, and the field of health observation is part of both health and social institutions. The state forms health insurance and protection systems in response to health disorders. Each country decides which model of health insurance it will apply, and accordingly, which method of financing it. The availability of healthcare to citizens also depends on these models [15].

1.2. The concept and role of the health system

By system we generally mean a set of interconnected elements that together lead to the achievement of goals in the environment in which the system exists. The health system is a normatively accepted position of the social community and the state in the area of protection and improvement of the population's health, where all the factors that realize it work in an organized and constantly developing manner in terms of mutual division of labor, as integral parts of the general social system. The health system can be defined based on the relationship between users, insured persons, health institutions and regulators, which together form the health insurance system.

2. Material and methods

Study methods are largely determined by the subject of the study. Thus, both qualitative and quantitative methods will be used in this article and those are: basic, general methods and methods of data collection. Analytical (analysis, abstraction, specialization, deduction) and synthetic methods (synthesis, concretization, generalization and induction) are the most common basic methods. Hypothetical-deductive, statistical and comparative methods are going to be used

in this paper. In the end, testing and analysis of the contents of various documents will be the basic method and technique for data collection. The main purpose of the study is to explore, determine a direction (positive / negative) in relation to patient satisfaction with the provided / received medical care / service, that is, the quality of interaction (services provided), taking into account: medical personnel (doctors and nurses), access to the institution, and the environment in the medical institution.

All the questions in the questionnaire were formatted according to the Likert type scale. The study was conducted in all services in four state institutions in January 2023. The research was conducted in accordance with ethical principles and human rights. The population consists of health insurers who have health rights in the four Public Health Institutions Tuzla Canton, Federation of Bosnia and Herzegovina, . The sample was consisted of 200 patients of both gender who were adults. The sample was taken in primary health care in four public health institutions during period from 1 - 31 January 2023. The sample was random - patients were interviewed on the principle of random sampling, who filled out the questionnaire as anonymous respondents: 1) Independent/s variables; 2) Dependent/s variables. The software tool SPSS for Windows (20.0, SPSS Inc., Chicago, Illinois, USA or second generation) have been used for statistical processing. Categorical data are represented by absolute and relative frequencies.

3. Results

There were 105 male respondents (52.5%) and 95 female respondents (47.5 %) in the sample. The majority of male respondents were in the age group from 39 to 60 year, 17 of them (16.1%), then in the age group from 21 to 34 years there were 20 (19%), then in the age group 55 years and older there were 24 (22.8%), then in the age group from 25 to 44 years there were 35 (23.8%) and the least in the group 18 to 20 years there were 4 (3.8%). Among female respondents, the most common age group is from 35 to 44 years, 18 of them (19%), then in the age group from 21 to 34 years 7 (7.4%), then in the age group from 45 to 54 years 32 (33.6%), then in the age group 55 years and older than 21 (22.1%), and the least represented women are the age groups under 20 year, 17 of them (17.9%).

In order to determine whether there is an interdependence between individual components, which express the satisfaction of patients with the health service provided in a health institution, table 1 shows the ranking correlation coefficients and the results of the test on their significance.

Table 1 Rank correlation coefficients test results

		Access to the institution	Doctor	Medical technician.	Space
Access to the institution	Coefficient correlation	1,000	0,646	0,550	0,580
	P-value		0,000	0,000	0,000
	Size sample	200	200	200	200
Doctor	Coefficient correlation		1,000	0,791	0,540
	P-value			0,000	0,000
	Size sample		120	120	120
Medical technician	Coefficient correlation			1,000	0,495
	P-value				0,000
	Size sample			200	200
Space	Coefficient correlation				1,000
	P-value				
	Size sample				200

An additional correlation analysis of Pearson's results was carried out, confirming the statistical significance between those who “agree and disagree” with the working hours of a medical institution based on the Fisher Z-transformation (Table 2).

Table 2 Analysis of Pearson correlation statistics

Analysis Table of Pearson correlation						
	N	Actual Power	Assumptions Test			
			Power	Null	Alternatives	Sig.
Pearson Correlation a	4	0.05	0.04	0	0.04	0.05
a. Two-sided test.						

The table presents that 86 (43.33%) respondents “agree” with the proposed claim "that the duration of the review is acceptable", 77 respondents (38.33%) "Absolutely agree" with the stated claim, 34 respondents (16.67%) "Disagree" with the stated claim, and 3 respondents (1.67%) "Absolutely disagree" with the claim. According to the results of the Chi-square test and the corresponding P-value ($P < 0.05$) it can be concluded that among the respondents there is a statistically significant difference in the relative representation (percentage) of respondents according to the intensity of agreement with the proposed claim. This means that respondents who agree with the proposed statement dominate, while respondents who absolutely disagree with the proposed statement within the duration of medical examination are less represented (Table 3).

Table 3 Time set aside for a medical examination

Time set aside for a medical examination	Disagree		Relatively Disagree		Agree		Relatively ly disagree		Chi square test	df	P
	f	%	f	%	f	%	f	%			
Time set aside for a medical examination is acceptable	1.6	1.3	30	11.9	41	37	65	33.7	74.2	4	0.001

The magnitude of the effect quantitatively expresses the difference in results between the groups of respondents who completed the questionnaires. It is expressed by the Wilcoxon signed rank test as a difference of parameters between groups and can be expressed as a deviation from known values. It can be noticed that the differences in the answers of the respondents when giving answers in the questionnaire were small to medium, which can be seen in Table 4.

Table 4 Wilcoxon signed rank test

	Standardizer	Point Estimate	95% Confidence Interval of the Difference Lower	95% Confidence Interval of the Difference Lower
Time set aside for a medical examination	0.5	7.9	4.1	8.3
	1.1	2.5	9.8	4.4
Waiting for the medical examination	3.2	1.2	0.6	3.1
	1.4	1.4	5.8	2.6
Satisfaction of medical personnel	6.5	4.7	0.5	5.2
	6.3	0.4	0.3	1.2
Cabinet equipment	7.0	5.4	1.5	8.1
	9.5	3.9	1.3	7.0

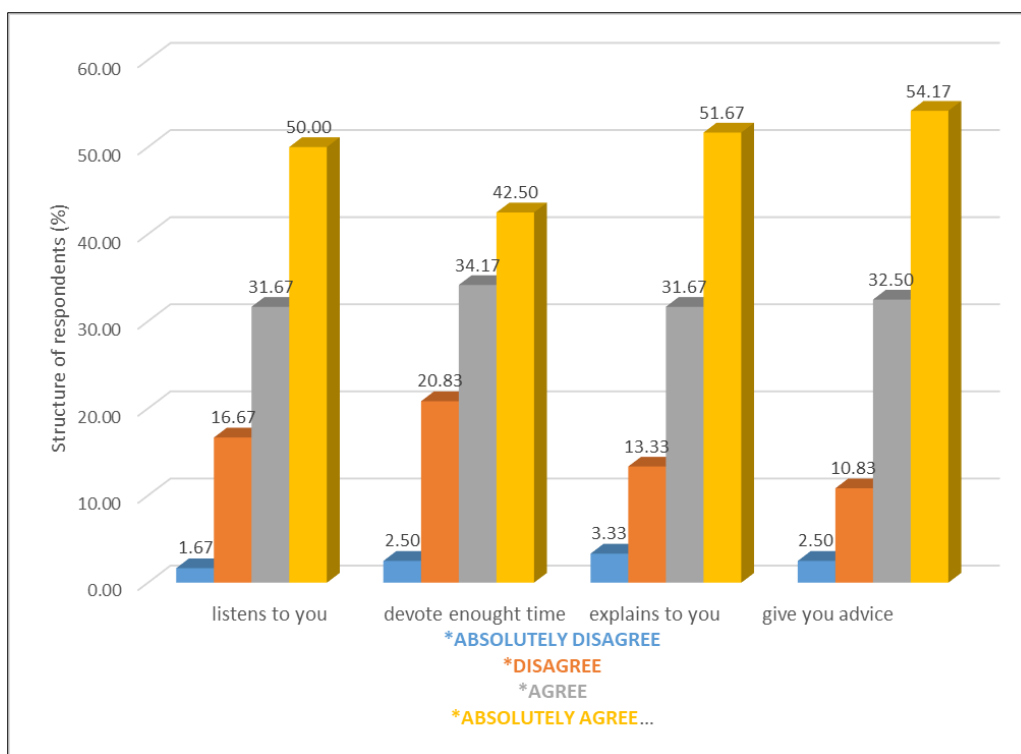


Figure 1 Representation of the proposed statement "providing advice and a good way of treatment"

According to the results of the chi-square test and the corresponding P-value ($p < 0.05$), it can be concluded that among the respondents there is a statistically significant difference in the relative representation (percentage representation) of the respondents according to the intensity of agreement with the proposed statement regarding the respondents' satisfaction with doctors in a health institution. This means that respondents who absolutely agree with the proposed statements dominate, while respondents who absolutely disagree with the proposed statement are the least represented in the area of satisfaction with doctors (Figure 1).

4. Discussion

Neatness is one of the qualities of medical institutions where it is necessary to know that all measures are taken in order to maintain hygiene and prevent the spread of infectious diseases. According to the research conducted in Brussels by the author Andreas and colleagues who compared results of hygienic conditions in 12 large centers of physical medicine in Europe, different results have been observed. Neatness varied from satisfactory to excellent depending on the assessment of patients. Health institutions maintain the tidiness of space and equipment at an enviable level, given the poor economic situation in Bosnia and Herzegovina [16].

It can be noticed that women are more satisfied with the work of doctors than men by comparing the results of the research. In addition, interpersonal relationships between staff are an important element in the quality of services provided to patients, and it should be concluded that there is an interdependence of doctors and nurses/technicians at work. According to one of the studies conducted earlier, there is also a good connection between doctors and patients, and patient awareness was at a low level.

In our study 43,33% patients "agree" with the proposed claim "that the duration of the review is acceptable.

The health center should pay attention to increasing the number of employees in order to avoid staff fatigue, and to ensure that the quality of services is at an even higher level. Comparing with the study from 2018, conducted in USA (53,3% respondents are satisfied with the claim "doctor explain to patients"), it can be noticed that the approximate the same number of patients are satisfied with that claim in our study (51,67%).

"In order to determine the achievements of the reform of primary health care in recent years, several studies have been conducted in the Federation of Bosnia and Herzegovina. However, only this research included all actors of reform

change: patients, service providers (doctor and nurse), directors of health centers, other specialists in primary health care and specialist consultative health care and decision makers in health care [17].

The results of the research showed that the existing laws and bylaws are not sufficiently adapted to the development of the health system. In order to carry out health care reform, it is necessary to adopt certain laws that will improve the financing of health care. Establishing standards that will be a measure of service quality is an unavoidable act, the postponement of which will not be good for patients. Forms in health care are not identical in health care institutions, the delay of the information system that will connect all institutions makes it difficult for health workers to communicate.

Almost half of the patients (48.9%) state that they have been referred by their family doctor to the possible risks of recommended medical examination and treatment, without significant differences between urban and suburban settlements. In addition, more than half of the patients from the BiH Federation (55.5%) say that a nurse helps them navigate the healthcare system very well.

In our work, 42,5% of patients of both sexes are satisfied with claim that doctors “devote enough time”. Comparing our results with a survey conducted in Slovenia in 2019 it is noticed that our patients are slightly less satisfied in terms of whether their doctor listens to them attentively. Patient satisfaction in Germany was 73%. This can be explained by the fact that there are a small number of specialist doctors, while in city of Zivinice there is around 70,000 residents. Therefore, it is important that the institution increases the number of employees, since the reduction of the health workers is reflected in rapid fatigue and deterioration in the quality of services.

5. Conclusion

The analyzes in this paper lead to the conclusions that the users in the four different health facilities are satisfied with the services provided. The quality of medical services provided by the medical center particularly affects the satisfaction and behavior of doctors and nurses/technicians, as well as access to the facility. Considering this paper as a whole, we can also follow certain guidelines to achieve a better quality of services, which is reflected in the satisfaction of both users and staff. In order to achieve a more significant improvement in the quality of services provided, it is necessary to organize a system that meets the needs of users and coordinate medical procedures for the benefit of users, increasing the quality of services to a higher level.

By looking at the results of the research, it can be concluded and give suggestions for other similar research. This study was aimed at showing patient satisfaction. Patient satisfaction depends on the communication skills of the staff with patients, the expected service and the experience of providing services. In percentage terms, more patients are satisfied compared to those who are not satisfied with the work, staff and services in all surveyed public health institutions. According to research by Andreas and associates who compared the results of hygienic conditions in 12 major physical medicine centers in Europe in Brussels in 2016, different results were observed [16]. Thus, the working conditions were achieved. There is also continuous professional training of employees, which results in customer satisfaction. Comparing with the study from 2014, conducted in Canada (80% satisfied with the waiting time for the examination), it can be noticed that the approximate number of satisfied patients with the time of ordering for the examination is also in our study (78%). According to a 2015 survey, most survey participants completed training in their field (all doctors, 94.2% of nurses), and / or health management (71.1% of doctors), noting that the training improved their knowledge and skills [17]. In our work, 83% of patients of both sexes are satisfied with the working hours in the Public health institutions. Of course, the institution also has economic efficiency due to the transfer of the volume of services with the Institute of Medical Insurance. We managed to define the needs of patients, arrange them according to priorities, and thus solve them. The patients took it and gave a positive assessment. The evaluation process needs to be refined, collective responsibility abolished and transferred to the responsibility of each individual. Algorithms are necessary when solving individual tasks.

Compliance with ethical standards

Disclosure of Conflict of interest

No conflict of interest.

Statement of informed consent

This study does not include personal data about patients, the survey is anonymous.

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