



## Patients' Satisfaction in Zanjan Educational Hospitals and its Relationship with Responsiveness

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### ABSTRACT

**Background:** Measuring patients' satisfaction shows the efficacy of care providers to meet patients' expectations and supplies the valuable data for health policy makers. This study was conducted to assess patients' satisfaction from hospital services and its relationship with responsiveness.

**Methods:** This cross-sectional study was carried out at Zanjan University of Medical Sciences in 2013 -2014. A total of 486 were selected and World Health Survey (WHS) questionnaire data was used.

**Results:** most of the inpatients (76.4 %) and more than half of outpatient (54.2 %) rated overall hospitals services at level of average and high satisfaction. The most favorable dimension in terms of patients' satisfaction was quality of care from both group patients point of view. There was statistically significant relationship between responsiveness domains and patients' satisfaction ( $p < 0.01$ ). The findings of this study showed that the majority of inpatients and half of outpatients were overall satisfied with hospitals services.

**Conclusion:** Both inpatients and outpatients were satisfied with quality of delivered care, but there was low satisfaction from participation in decision-making for inpatients and access to services in outpatients.

## 1. Introduction

Health systems' primary purpose is to improve the health of a defined population. However, it is necessary to evaluate their performance in order to judge their goal achievement [1]. Patients' views and opinions are an essential means for assessing satisfaction, responsiveness and quality of health services [2]. Responsiveness and satisfaction, measure the achievement level of health system to meet population expectations.

WHO defines responsiveness as a system's ability to respond to the legitimate expectations of potential users in interaction with health system.

Satisfaction is a subjective feeling in which patients compare their experience of provided health care with their expectations and thus the patients' reactions to different aspects of their experience of care [3].

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In addition, patients' satisfaction is influenced by the level of expectation of health care services [4].

Generally, the individual perceptions, expectations and experience together are the determinants of patients' satisfaction [3].

Measurement of patients' satisfaction as a valid indicator of quality of hospital service shows the ability of health care providers to meet patients' expectations. In many countries, measurement of patient satisfaction with the health care system through the eyes of patient is used as the key tool of quality by health care managers [5]. The survey of patient satisfaction supplies high quality data for managers to identify areas for improvement and increase patients' satisfaction [6]. In some countries, the survey and measurement of patients satisfaction in health system is mandatory.

For instance, measuring satisfaction has been required as a component of quality management reports in Germany since 2005 and is one of the indicators of health care service quality.

All care providers should give this information as benchmarking data of hospitals [7]. Although patients do not have technical skill and knowledge for evaluating the care providers (physicians, nurses...), they are consumers that have legitimate expectations and concerns each time they visit the hospital. Identifying and meeting these expectations and concerns will form the main part of a health service improvement program [8]. WHO review of the patient satisfaction and quality of care literature led to the development of measurement instrument of responsiveness, That can measure patients' satisfaction and responsiveness level. Studies show that patients experience is related to health outcomes [9]. Responsiveness differs from satisfaction in three aspects. First, patient satisfaction domain is limited to clinical interaction in health care institute, whereas responsiveness evaluates health system as a whole.

Moreover, measurement of patients' satisfaction combines medical and non- medical

aspects of care. Finally, patient satisfaction is the complex combination of perceived need, expectations and experience of care [10].

Nowadays, patients' rights have changed from focusing on person – limited to government involvement for protecting individual life and privacy- to collective rights for health care. In addition to access to health services, these rights include consumers participation in decision making related to cure and care preferences [11, 12]. Patient satisfaction can be related to both characteristics of patients and care providers.

Satisfaction factor related to providers is physician's proficiency and interpersonal communication skills, behavior of hospital staff, access to care, and infrastructure. Factors such as demographic characteristics of patients, patients' perception of a relationship of trust and feeling of involvement in decisions about care relate to the patients [13]. Documents show the patients' positive perceptions lead to the improvement of health care and increasing level of patients' satisfaction. A study in Kuwait found that, persons who had poor access to medical care, had higher rate of hospital stay for common medical conditions [14].

A study by Hana et al, on patients' satisfaction with the quality of primary health care in Saudi Arabia showed that patients were dissatisfied with waiting areas [15]. Also, there was a linear relationship between patients' perception of waiting time for receiving health services and their overall satisfaction [16]. A strong and inverse relationship between waiting times in outpatient care settings and patient satisfaction has been found [17]. A study by Dormohammadi et al., on patients' expectations of their physicians in Iran, showed that for outpatients, the most important expectations were competence, clear explanation of the disease, consultation in time of need, and attentiveness.

Competence, availability of physician, courtesy, defining following appointments, and disease follow-up were the most important expectations respectively on inpatients views [18].

The study of Hsu et al., on dimensions of responsiveness of a health system in Taiwan, showed that respect, access, confidentiality, basic amenities, and social support were the most important dimensions of responsiveness. In above-mentioned study, the prompt attention and choice of provider factors were combined and named access factor. Prompt attention was considered as least waiting time and waiting list [19]. In a study by Peltzer on patient experiences and health system responsiveness in South Africa, the findings in context of patients' satisfaction showed that the most important reason for dissatisfaction with public hospital and community health centers was the long waiting time [20].

Patient satisfaction is one of the ways used to evaluate the quality of care, and an indicator of weaknesses in the health service which can be used in surveys related to deficiencies of health service quality [21]. Quality of care is a systemic approach to health services, which considers both technical quality and interpersonal aspect of delivery of health care. Patient satisfaction is one of the two main components of quality of care which is related to understanding the needs of the patients and providing better services accordingly [22]. Also, few studies have been performed on the responsiveness of the health system in Iran and its relationship with patient satisfaction, and the focus has not been on hospitals responsiveness [8, 23]. This study was conducted to assess patients satisfaction from hospital services and its relationship with responsiveness.

## 2. Material and Methods

### 2.1. Study design

This descriptive, analytical study was implemented as a cross-sectional survey in the educational hospitals of Zanjan City in 2013 .

The population of this study included inpatients and outpatients of the above- mentioned hospitals. Sample size was 486 (246 inpatients and 240 outpatients). Outpatients were selected from the clients of outpatient clinics and inpatients selected during their discharge through systematic sampling. In case of outpatients, the first person

was randomly selected and subsequent persons with systematic method, and inpatients at discharge in wards, excluding emergency and neurology, who were asked to complete the questionnaire.

Participants were selected from each of the hospitals. Illiterate patients were interviewed face to face by a trained interviewer. Two interviewers were university graduates in health field and had received necessary training on interviewing techniques, furthermore, they were local residents and spoke the local dialect.

### 2.2. Data collection

In order to measure satisfaction, a part of the World Health Survey (WHS) questionnaire data was used for satisfaction analysis and its relationship with responsiveness. This questionnaire is a valid, reliable and comparative instrument developed by the WHO [24]. The responsiveness questionnaire contained three sections: the first section was related to demographic and personal information of the participants; the second part included questions related to satisfaction and access to health services; the third part covered questions related to the performance of responsiveness in educational hospitals. Each of questionnaire items was scored by five - point Likert scale, where [5] was completely satisfied/very good and [1] represented completely unsatisfied /very poor. Further details on sample size and data gathering have been described previously by Mohammadi A and Kamali K. [25]. Validity and reliability of this questionnaire in Iran was determined by Rashidian et al., [23].

In accordance with the WHO's approach, responsiveness performances were dichotomized into; good responsiveness (combining responses; very good and good or always and usually), and poor responsiveness (combining responses; moderate, poor and very poor or never and sometimes) [25]. Patients satisfaction was grouped into; the satisfied (combining responses; 5 completely satisfied and 4 satisfied), and the unsatisfied (combining responses; 2 unsatisfied and 1 completely unsatisfied).

### 2.3. Statistical analysis

SPSS (version 16) for Windows was used to analyze the data. In descriptive statistics, mean, standard deviation, median and frequency were reported. For comparing significance of means difference, independent samples t-test and ANOVA were utilized. For analysis of relationship of patients' satisfaction with responsiveness, Pearson correlation coefficient and multivariate regression analysis were used. P values under 0.05 were assumed as statistical significance.

## 3. Results and Discussion

In general, 486 patients (50.6% inpatients and 49.4% outpatients) participated in the study. The age mean of the participants was ( $42.5 \pm 22.1$ ) year. In total, 56.6% of the participants were female, and 41% were illiterate. The majority of participants (76.4%) rated overall satisfaction of inpatient care as average and high, more than half of outpatient (54.2%) had average and high satisfaction of delivered services in outpatient clinics. The most favorable dimension on the basis of patients' satisfaction was quality of care from both group patients point of view so that 63.4% inpatients and 57.9% outpatients were satisfied with quality of provided care. The least satisfaction of inpatients and outpatients were related to participation in decision-making and access to services dimensions respectively. Only 21.6% inpatients were satisfied with this case.

Only 14.2% outpatients were satisfied with access to services (waiting and consultation time) (Table 1). In case of inpatient, mean score of overall satisfaction for women ( $3.8 \pm 0.6$ ) was higher than male. However, in case of outpatient, mean score of overall satisfaction for women was lower than men. T test for independent samples did not show statistically significant differences on the basis of gender. Patients who had rated the responsiveness performance good were more satisfied than patients with poor rating of responsiveness performance. Difference of mean score of satisfaction was statistically significant in terms of responsiveness performance of hospitals.

This finding indicates positive effect of responsiveness on satisfaction (Table 2). In case of inpatient, participants of age group [(44- 53) had more satisfaction (4.02) than others. In case of outpatient, mean score of overall satisfaction had ascending trend in terms of age. Difference of mean score of satisfaction in inpatient cares was statistically significant in terms of age ( $p < 0.001$ ) (Table 2). In case of inpatient, mean score of satisfaction for illiterate patients was higher (3.93) than others. In case of outpatient, mean score of satisfaction for patients with high education was lower than others.

Difference of mean score of satisfaction in inpatient care was statistically significant in terms of education ( $p < 0.001$ ) (Table 3). Results of correlation analysis is shown in Table 4, there was statistically significant relationship between responsiveness domains and patients' satisfaction ( $p < 0.01$ ), the correlation coefficient was strong between overall responsiveness and patients' overall satisfaction ( $r = 0.71$ ), and between participation in decision-making and communication ( $r = 0.81$ ), autonomy ( $r = 0.77$ ) in inpatient care. Also, there was strong and positive relationship between patients' overall satisfaction and responsiveness, and access to services with prompt attention ( $r = 0.91$ ) in outpatient services.

To survey relationship between patients' overall satisfaction as outcome variable and responsiveness domains as independent variables, multiple regression analysis was used. In inpatient care, there was positive relationship between patients' overall satisfaction and three variables of responsiveness domains: prompt attention, clear communication and dignity. Total model with determination coefficient ( $r^2 = 0.72$ ) was statistically significant ( $p < 0.001$ ) In outpatient services, there was a positive relationship between patients' overall satisfaction and four variables of responsiveness domains: prompt attention, dignity, quality of basic facilities and choice. Total model with determination coefficient ( $r^2 = 0.58$ ) was statistically significant ( $p < 0.001$ ) (table 5). This study aimed to evaluate patients satisfaction in educational hospitals of Zanjan City and its relationship with responsiveness from the patients' point of view. The findings of this study showed

**Table 1:** Frequency distribution of patients' satisfaction in Zanjan educational hospitals (2014).

Satisfaction level Satisfaction domains	Services type	High satisfaction		Average satisfaction		Low satisfaction	
		Number	Percent	Number	Percent	Number	Percent
Quality of care	inpatient	156	63.4	72	29.3	18	7.3
	outpatient	139	57.5	55	22.9	46	19.6
Participation in decision- making	inpatient	53	21.6	113	45.9	80	32.5
	outpatient	70	29.1	130	54.2	40	16.7
Access to services	inpatient	97	39.4	92	37.4	57	23.2
	outpatient	34	14.2	91	37.9	115	47.9
Overall satisfaction	inpatient	95	38.6	94	38.2	57	23.2
	outpatient	40	17.2	90	36.9	110	45.9

**Table 2:** Mean (SD), median scores of patients' overall satisfaction based on participants gender and age group in Zanjan educational hospitals in 2014 (N=486).

Services Type	Character	Number	Mean	SD	Median	P-Value
<b>Gender</b>						
Inpatient	male	124	3.72	0.68	3.8	0.300
	female	122	3.8	0.6	3.83	
Outpatient	male	87	3.57	0.62	3.6	0.480
	female	153	3.51	0.67	3.5	
<b>Hospital responsiveness</b>						
Inpatient	good	145	3.84	0.58	3.83	< 0.001
	Poor (bad)	101	2.92	0.74	2.89	
Outpatient	good	121	3.99	0.56	4	< 0.001
	Poor (bad)	119	3.32	0.58	3.5	
<b>Age group</b>						
Inpatient	≤ 36	48	3.54	0.57	3.5	
	37 - 43	58	3.47	0.48	3.5	< 0.001
	44 - 53	74	4.02	0.66	4.08	
	≥ 54	66	3.92	0.65	4	
Outpatient	≤ 36	79	3.44	0.65	3.5	
	37 - 43	55	3.55	0.58	3.5	0.130
	44 - 53	56	3.6	0.7	3.8	
	≥ 54	50	3.69	0.57	3.7	

**Table 3:** Mean (SD), median scores of patients' overall satisfaction based on participants literacy in Zanjan educational hospitals in 2014 (N= 486).

Services Type	Age group	Number	Mean	SD	Median	P-Value
Inpatient	Illiterate	117	3.93	0.59	4	0.001
	Basic level	48	3.56	0.7	3.6	
	Intermediate level	61	3.62	0.6	3.64	
	Higher education	20	3.67	0.61	3.6	
Outpatient	Illiterate	84	3.6	0.65	3.63	0.14
	Basic level	62	3.53	0.7	3.58	
	Intermediate level	65	3.56	0.6	3.61	
	Higher education	29	3.27	0.72	3.4	

**Table 4:** Correlation (Pearson) between patients' satisfaction and hospital responsiveness performance in Zanjan educational hospitals in 2014.

Satisfaction Responsiveness	Inpatient				Outpatient			
	Quality of care	Participation in decision-making	Access to services	Overall satisfaction	Quality of care	Participation in decision-making	Access to services	Overall satisfaction
Prompt attention	0.14	0.53	0.74	0.75	*	*	0.91	0.58
Dignity	0.3	0.69	0.56	0.71	0.36	0.74	0.16	0.53
Autonomy	0.18	0.77	0.48	0.68	0.18	0.42	0.24	0.36
Confidentiality	0.26	0.46	0.42	0.52	0.17	0.46	*	0.3
Choice	0.15	0.59	0.38	0.53	*	0.29	0.2	0.24
Quality of basic amenities	0.25	0.26	0.19	0.32	0.29	0.31	0.29	0.4
Social support	0.18	0.5	0.42	0.51				
Communication	0.24	0.8	0.51	0.73				
Overall Responsiveness	0.26	0.66	0.57	0.71	0.28	0.56	0.55	0.63

\* Non- significant

**Table 5:** Multivariate regression analysis results, outcome (dependent) variable: patients' satisfaction.

Responsiveness domains	Inpatient †			Outpatient ‡		
	Standardized β	T-Value	P-Value	Standardized β	T-Value	P-Value
Prompt attention	0.41	9.26	< 0.001	0.49	10.89	< 0.001
Dignity	0.18	3.14	0.002	0.5	8.35	< 0.001
Autonomy	0.04	1.29	0.19	0.04	0.77	0.44
Confidentiality	0.02	0.47	0.6	0.075	1.28	0.2
Choice	0.09	1.96	0.051	0.12	2.45	0.015
Quality of basic amenities	0.014	0.35	0.7	0.17	3.82	< 0.001
Social support	0.022	0.48	0.63			
Communication	0.26	4.19	< 0.001			

† F value = 54.20      p < .001      R<sup>2</sup> = .58      ‡ F value = 75.37      p < .001      R<sup>2</sup> = .72

that the majority of inpatients and half of outpatients were overall satisfied with hospitals services. This finding implies patients' better satisfaction from inpatient care in comparison with outpatient services. The findings of this study are in line with the results of previous studies conducted by Adekanya et al., [6], Bamidele et al., [14] and Peltzer et al., [20].

The study on satisfaction with the healthcare services at Nigerian hospitals by Adekanya et al. showed that 78.5% of the respondents were satisfied with hospitals services and there was a positive correlation between patients satisfaction and prompt responsiveness and clear communication [6]. In addition, in a study by Bamidele et al., concerning patient satisfaction with the quality of care in Botswana, mean score of overall quality of services was 3.1 and the highest patient dissatisfaction was related to waiting time (63.9 % unsatisfied) [14], also, Peltzer et al., study on patient experiences and health system responsiveness in South Africa showed that 23.3% and 11.8 % of people were dissatisfied with services of public and private hospitals respectively. The main reason of patient

dissatisfaction was long time of waiting (41.5 % and 38.1% unsatisfied respectively) [20].

The findings of this study in the context of overall satisfaction were lower than the results of McMullen and NetLand [16], Schoenfelder et al., [7] and Coulter and Jenkinson studies [12]. In a study by McMullen and NetLand on wait time as a driver of overall patient satisfaction in USA, mean of overall satisfaction was 6.27 [16]. Study of Schoenfelder et al on the determinants of patient satisfaction in 39 hospitals in Germany indicated that most patients (80%) was satisfied with inpatient care and hospital services, median score of overall satisfaction was 5.04. Regression analysis showed that the clear responses of physicians and information about drug were two aspects important of medical care [7]. In a study by Jenkinson et al. on European patients' views about responsiveness of health system responsiveness, results of the study in the context of overall satisfaction with physicians services indicated high overall satisfaction. Majority of respondents in Switzerland (87%), Sweden (83%), UK (81%), Spain (76%), Germany (72%) and Italy (69%) rated physicians' skills as good and

very good [12]. In the present study, the most favorable dimension on the basis of patients' satisfaction was quality of care from patients' point of view. The most dissatisfaction for inpatients and outpatients were related to participation in decision- making and access to services dimensions respectively. This finding implies high satisfaction of patients and their positive attitude toward quality of care. On the other hand, patients' views were negative toward participation in decision- making related to choice of cure methods in inpatient care and access to services (long waiting time for receiving services and short consultation time) in outpatients services. Delay (long waiting time) is the common finding in the most patients satisfaction studies .

The findings of this study in the context of access to services is close to the results of Ebrahimipour et al., on the responsiveness of the general hospitals in Iran [9], Habibullah et al., [26], McMullen and NetLand [16], Michael [17] studies.

In a study by Ebrahimipour et al. on the general hospitals responsiveness in Iran indicated that mean score of responsiveness was 2.66 [9]. The study of Habibullah et al. on responsiveness of the Federal Health System in Pakistan indicated that there is relationship between patients' satisfaction and prompt attention, and waiting time. Long waiting time and lower attention leads to patients' dissatisfaction [26]. The study by McMullen and Net land in USA indicated that least patients' satisfaction was due to waiting time (5.9). Also, Spearman regression analysis showed that three variables: waiting time for receiving services, physician knowledge and consultation time had high relationship with patients' satisfaction. There was strong correlation between patients' overall satisfaction and waiting time, the more waiting time became long, and the less overall satisfaction of patients was [16]. The study result of Michael et al. on improving wait times and patient satisfaction in USA indicated that decreasing of waiting time led to the improvement of patients' overall satisfaction, this finding was statistically significant( $X^2 = 10.7, p = 0.02$ ) [17].

The findings of this study in the context of access to services were lower than the results of Abwab khan [5] and Adekanya et al., [6] studies.

In the study of Abwab khan on patients' experience and satisfaction with healthcare in Pakistan, the highest satisfaction was related to accessibility of physicians and their courtesy (93% of patients satisfied) [5]. Also, in a study by Adekanya et al. in Nigeria hospitals, 76.5 % of the patients agreed that physicians listened to them, and gave the useful information about their conditions. Approximately half of the patients (50.8%) mentioned a delay in delivery of services (long waiting time) [6].

The finding of this study in the context of participation in decision- making is similar to the results of Mukhtar et al., [13], Schoenfelder et al. [7] and Al Qahtani et al., [22] studies. In a study by Mukhtar et al. on patients' satisfaction in Pakistan, mean scores of patients' satisfaction were in the context of information provided to patients (2.28), participation in decision- making and receiving informed content of patients(2.71), satisfaction of waiting time (1.7) and access to services(2) [13].

The study of Schoenfelder et al. in Germany indicated that the clear responses to patients' questions and information about drug were important aspects of medical care [7]. In a study carried out by Al Qahtani et al. on satisfaction with nursing care in Saudi Arabia it was indicated that continuity of care is one of the important factors influencing patients' satisfaction [22].

Nowadays, health systems try to value the patients' rights in the context of provision of information and participation in decision- making related to cure [27].

#### 4. Conclusion

Both inpatients and outpatients were satisfied with the quality of delivered care, but there was low satisfaction from participation in decision- making for inpatients and access to services in outpatients. There was a positive relationship

between patients overall satisfaction and hospitals responsiveness performance. Also, there was a positive correlation between satisfaction of participation in decision-making and responsiveness dimensions of communication and autonomy from inpatients viewpoint. There was a relationship between satisfaction of access to services and responsiveness dimension of prompt attention in outpatient services. Taking actions to improve patients' satisfaction are essential because patients are hospital costumers. Thus, management and health policy-makers' attention to provide adequate and comprehensive information for patients can help their decision-making in the context of cure and care. Listening to patients and giving clear responses to their questions can lead to patients' satisfaction. Also, shortening waiting time, promptness of cure staff and increasing consultation time can improve patients' satisfaction .

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