

Original Article

# Patient Satisfaction and Its Predictors in the General Hospitals of Southwest Saudi Arabia: A Cross-sectional Survey

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## Abstract

**Background:** Patient satisfaction occupies a central position in measuring the quality of care as it provides information on the provider's success, meeting the patient's values and expectations. Hence, it is an essential tool for assessing health services outcomes. This study aimed to assess patients' satisfaction level and factors influencing healthcare quality of general hospitals in the Jazan region, Saudi Arabia (SA).

**Methods:** This observational cross-sectional study was conducted on a sample of 423 patients selected through stratified random sampling from general hospitals of the Jazan region.

**Results:** The overall satisfaction rate among the study participants was 80.9%. Satisfaction with food services was the highest (91.15%) followed by doctor services (81.0%), reception and entry procedures (80%), and nursing services (78.15%). The various aspects of satisfaction with doctors and nurses included the treatment prescribed by physicians, clarity in communication with patients, compassion and providing clear explanation of what they were doing. However, about 27.3% of the patients were dissatisfied with the length of waiting period before seeing a doctor. Binary logistic regression analysis suggested that uneducated patients and patients with secondary school education were more likely to have higher satisfaction level than university-educated patients (OR = 3.40, 95% C.I. [1.56–7.45],  $p = 0.002$ ), (OR = 2.66, 95% C.I. [1.28–5.55],  $p = 0.009$ ), and (OR = 2.29, 95% C.I. [1.40–3.73],  $p = 0.001$ ), respectively.

**Conclusion:** The health services satisfaction level was high in the Jazan population. However, some aspects of dissatisfaction were reported, such as the long waiting period before seeing a doctor. These aspects are recommended to be improved to ensure that the services provided by general hospitals are of high quality.

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## 1. Introduction

Patient satisfaction occupies a central position in measuring the quality of care and provides information on the provider's success in meeting patients' values and expectations. Hence, it is an important tool for assessing healthcare services outcomes [1–3]. Patients' experience and viewpoints are an essential index for improving the quality of healthcare services [4]. Caring for patient satisfaction leads to compliance improvement, continuity of care, and eventually, better health outcome [5, 6]. Healthcare sector planning reforms increasingly highlight the need to improve patient satisfaction with healthcare services; therefore, identifying patients' needs and evaluating the provided healthcare services is the starting step for delivering patient-centered care [6].

Research on patient satisfaction in the Kingdom Saudi Arabia (KSA) suggested various degrees of satisfaction among healthcare visitors [7–11]. A study conducted in Riyadh, KSA (2006) to assess the satisfaction derived from the healthcare services showed that 56.3% of the participants were unsatisfied with the services [7]. In 2013, based on the evaluation of nurses' services and their impact on patient satisfaction, investigators at Al-Noor Specialist Hospital in Makkah recommended the need for raising awareness of the nurses [9].

Furthermore, in Makkah, KSA, a study investigating services provided for the patients revealed that the majority of the patients agreed on the cleanness of food equipment (96.8%), while the aspect with least satisfaction was that there was no place to warm up or freeze food as reported by 92.0% and 90.8%, respectively [10]. Moreover, a large study was conducted in 2011 in six regions of KSA. It included 15 hospitals to evaluate patient satisfaction with hospital healthcare services affiliated to the KSA Ministry of Health. The overall rate of satisfaction with hospital services of the Ministry of Health was 70.6% [11].

Numerous researchers analyzed the effects of personal features, processes, and outcomes of care on patient satisfaction. In a meta-analysis study, Tucker and Adams, (2001) recognized care, empathy, reliability, and responsiveness as predictors of patient satisfaction [12]. Cleary and McNeil (1988) grouped patient satisfaction determinants into three care features: structure, process, and outcomes [13]. Age, gender, employment, health status, and educational level were found to be significantly associated with patient satisfaction [14–16]. Meeting patient expectations have been demonstrated to affect their satisfaction [17].

Studies cited were conducted in different regions of KSA. However, to the best of our knowledge, no study has been conducted in the Jazan region, southwest KSA, which

has about 17 general hospitals. Hence, the main objective of this study was to assess the level of patient satisfaction with the service provided in the general hospitals of the Jazan region and investigate the factors influencing patient satisfaction with the healthcare services in the Jazan region.

## 2. Materials and Methods

### 2.1. Study design, setting, and population

An observational cross-sectional survey was conducted on patients admitted to general hospitals in the Jazan region. The region is located in the southwestern corner of KSA and is subdivided into 17 governorates that has a population of 1.365 million, according to a 2010 census. The 17 general hospitals in the Jazan region are spread across the region's five healthcare sectors. The study population comprised adult people admitted to general hospitals during the study period.

### 2.2. Sampling procedures

The study sample size was estimated to be 440 patients depending on the standardized formula for cross-sectional surveys [18]. The sample size was calculated based on the assumption of 50% satisfaction level, with an estimated error  $\leq 5\%$ , and within a 95% confidence. The final sample size was increased to 440 participants after accounting for a 10% nonresponse rate. Stratified random sampling was used for selecting hospitals from the healthcare sectors of the region. In the final stage, the sample from each hospital was selected using simple random sampling.

### 2.3. Data collection and study instrument

Data were collected using a self-administered questionnaire. The questionnaire represents a modified version of a standard survey instrument Hospital Consumer Assessment of Health Care Providers and System (HCAHPS) modified to suit the Saudi community setting and culture [19]. The final version of the questionnaire included patients' background characteristics and the satisfaction items, which had a total of 24 items distributed into five domains, namely, patient satisfaction with the services at the hospital entrance; physician services; nursing services; cleanness in the hospital; food services

and general patient satisfaction with healthcare services. A five-point scale Likert-type questions (Strongly Agree [5], Agree [4], Uncertain [3], Disagree [2], and Strongly Disagree [1]) was used. For data analysis, the lowest score was valued as (1) for strongly dissatisfied and the highest as (5) for strongly satisfied. A pilot study with 30 patients admitted to different wards was conducted to assess the questionnaire's reliability, validity, and clarity and to ensure the appropriateness of wording, formatting, length, and order of the questions. Analysis of reliability based on Cronbach's Alpha revealed an overall value of 0.93, while for the different domains, it ranged from 0.83 to 0.88.

## 2.4. Data analysis

The completed questionnaires were revised to avoid mistakes. Descriptive statistics, including simple tabulation, frequencies, proportion, and cross-tabulations, were used for data analysis. The logistic regression model was also used to evaluate factors associated with the level of patient satisfaction and the corresponding ORs with their 95% CIs were also estimated. A  $p$ -value  $< 0.05$  was used to indicate statistical significance. Data entry and analysis were performed using the Statistical Package for Social Sciences (SPSS) v.20.

## 3. Results

A total of 423 patients responded to the study, with a 96.1% response rate (423 out of 440). Table 1 shows the sociodemographic features of the participants. Of those 423, 177 (41.8%) were male and 246 (58.2%) female. While most patients (233 [55.1%]) were aged between 20 and 35 years, 59 (13.9%) were  $<20$  years. In addition, 205 participants (48.5%) were non-working, 82 (19.4%) were students, and 136 (32.2%) were employed.

Table 2 shows patient satisfaction based on the different services provided. As seen in the table, 376 (88.9%), patients were satisfied with the receptionist and entry procedures. However, 108 (25.5%) patients were dissatisfied with the length of the waiting period before seeing a doctor. In comparison, 361 (84.3%) patients confirmed that the examination rooms had a suitable temperature, and 343 (81.1%) were satisfied its privacy. Satisfaction with food hygiene; its temperature; taste and healthiness; and the time of meal servicing was 92.5% (271), 86.7% (254), 94.2% (275), and 94.4% (278), respectively.

Table 3 presents patient satisfaction according to different service categories (domains). While the overall satisfaction rate was 80.9% (293), the dissatisfaction rate

TABLE 1: Sociodemographic features of the study participants ( $n = 423$ ).

Demographic characteristics		Number	Percentage (%)
Gender	Male	177	41.8
	Female	246	58.2
Age (yr)	<20	59	13.9
	20–35	233	55.1
	36–50	84	19.9
	>50	47	11.1
Education level	Illiterate	54	12.8
	Primary	54	12.8
	Intermediate or secondary	157	37.1
	University	158	37.4
Nationality	Saudi	383	90.5
	Non-Saudi	40	9.5
Occupation	Student	82	19.4
	Employed	136	32.2
	Not working	205	48.5
Income	High	18	4.3
	Moderate	304	71.9
	Low	101	23.9

was 19.1% (72). Satisfaction with food services scored the highest (240 [91.2%]), followed by doctor services (320 [80.0%]) and reception and entry procedures (308 [80.0%]). The highest rate of dissatisfaction was reported for hospital cleanliness (101 [25.8%]).

Binary logistic regression analysis suggested that uneducated patients, patients with primary and secondary school education were more likely to have higher satisfaction level than university-educated patients (OR = 3.40, 95% C.I. [1.56–7.45],  $p = 0.002$ ), (OR = 2.66, 95% C.I. [1.28–5.55],  $p = 0.009$ ), and (OR = 2.29, 95% C.I. [1.40–3.73],  $p = 0.001$ ), respectively (Table 4).

## 4. Discussion

The current study aimed to determine the satisfaction levels of patients admitted to the general hospitals in the Jazan region, KSA and find out the related factors associated with the level of satisfaction. There is an increasing need to investigate in more depth the different components of patient satisfaction and their predictors.

This study revealed that the overall client satisfaction level with the hospital services was 80.9%. This is similar to what was reported by the Ministry of Health, KSA, where the

TABLE 2: Patient satisfaction with different satisfaction items ( $n = 423$ ).

Domains	Items	Strongly Agree N (%)	Agree N (%)	Uncertain N (%)	Disagree N (%)	Strongly Disagree N (%)	
<b>Reception and entry procedures</b>	Receptionist was helpful and concerned about patient complaint.	200 (47.3)	136 (32.2)	40 (9.5)	34 (8)	13 (3.1)	
	The waiting period before admission to the doctor was appropriate.	156 (36.9)	132 (31.2)	27 (6.4)	67 (15.8)	41 (9.7)	
	The examination room temperature was moderate and calm.	178 (42.1)	157 (37.1)	26 (6.1)	42 (9.9)	20 (4.7)	
	The examination rooms were private.	174 (41.1)	132 (31.2)	37 (8.7)	45 (10.6)	35 (8.3)	
	The admission procedure was easy.	156 (36.9)	119 (28.1)	60 (14.2)	45 (10.6)	43 (10.2)	
<b>Doctor services</b>	The doctor receives the patient with cheerfully and treats kindly and respectfully.	219 (51.8)	120 (28.4)	19 (4.5)	45 (10.6)	20 (4.7)	
	The doctor introduce himself and gets to know the patient to facilitate communication between them.	150 (35.5)	107 (25.3)	43 (10.2)	78 (18.4)	45 (10.6)	
	The doctor gives the patient sufficient time to listen to his complaints and answer all his questions.	207 (48.9)	121 (28.6)	30 (7.1)	40 (9.5)	25 (5.9)	
	The doctor would explain the case to the patient.	199 (47)	128 (30.3)	27 (6.4)	45 (10.6)	24(5.7)	
	The doctor speaks to the patient in words that fit the patient's language and understanding.	207 (48.9)	143 (33.8)	23 (5.4)	34 (8)	16 (3.8)	
	<b>Nurse services</b>	The nurse introduce herself and gets to know the patient to facilitate communication between them.	148 (35)	94 (22.2)	43 (10.2)	90 (21.3)	48 (11.3)
		The nurse treats patients in a humane and respectful way.	200 (47.3)	150 (35.5)	22 (5.2)	34(8)	17(4)
The nurse administered medicines, conducted tests at appropriate times and explained everything she did to the patient.		200 (47.3)	132 (31.2)	26 (6.1)	47 (11.1)	18(4.3)	
The nurse responded quickly when needed.		180 (42.6)	129 (30.5)	27 (6.4)	47 (11.1)	40 (9.5)	

TABLE 2: (continued).

Domains	Items	Strongly Agree N (%)	Agree N (%)	Uncertain N (%)	Disagree N (%)	Strongly Disagree N (%)
Hospital cleanliness	The hospital entrances and corridors were clean and tidy.	196 (46.3)	110 (26)	35 (8.3)	50 (11.8)	45(10.6)
	The examination and waiting rooms were clean.	182 (43)	124 (29.3)	22 (5.2)	50 (11.8)	45 (10.6)
	Bathroom was clean.	155 (36.6)	102 (24.1)	41 (9.7)	60 (14.2)	65 (15.4)
Food services	The food was served clean and tidy.	170 (58.0)	79 (27.0)	22 (7.5)	19 (6.5)	3 (1.0)
	The food served was hot and delicious.	148 (50.5)	75 (25.6)	31 (10.6)	27 (9.2)	12 (4.1)
	The food served was healthy and suitable for consumption.	164 (56.2)	70 (24)	41 (14)	12 (4.1)	5 (1.7)
	The mealtimes were adequate.	172 (58.7)	82 (28)	24 (8.2)	12 (2.8)	3 (7)

TABLE 3: Patient satisfaction according to different domains (n = 423).

Components	Satisfied n (%)	Dissatisfied n (%)
Patient satisfaction with reception and entry procedures	308 (80.0)	75 (20.0)
Patient satisfaction with doctor services	320 (81.0)	74 (19.0)
Patient satisfaction with nurse services	308 (78.2)	85 (21.8)
Patient satisfaction with hospital cleanliness	290 (74.2)	101 (25.8)
Patient satisfaction with food services	240 (91.2)	23 (8.8)
<b>Overall level of satisfaction</b>	<b>293 (80.9)</b>	<b>72 (19.1)</b>

patient satisfaction report for the first part of 2020 showed that 81.81% of the admitted patients in Jazan hospitals were satisfied with the services. The same survey revealed that the overall level of satisfaction in all KSA was 82.57% [20].

Our study indicated that 81% of the study participants were satisfied with the services provided by doctors, 85% were satisfied with the way doctors welcomed them, and 83% were satisfied with the doctor's explanation of the patient's condition. Similar results were reported by Owaidh *et al.* in Southern Saudi Arabia; in their study, doctor services received a high patient satisfaction score of 90.1% [21], while in our study, it scored the second highest (81%). Generally, the literature suggested that doctor–patient interaction is usually associated with patient satisfaction [22–24].

Moreover, 78.1% of our study participants were satisfied with the nurse services in the general hospitals. This is similar to the results of Al-Doghaither's study (2000) in which 77% of their participants were satisfied with the nursing care provided at King Khaled University Hospital, Riyadh [25]. The study revealed that our results were higher for

TABLE 4: Predictors of patient satisfaction among the study participants.

Factors		Satisfied		COR ( 95% C.I.)	P-value
		Yes n (%)	No n (%)		
Gender	Male	130 (73.4)	47 (26.6)	1.17 (0.76–1.80)	0.483
	Female	173 (70.3)	73 (29.7)	1	
Age (yr)	<20	42 (71.2)	17 (28.8)	0.51 (0.20–1.31)	0.159
	20–35	163 (70.0)	70 (30.0)	0.48 (0.21–1.07)	0.074
	36–50	59 (70.2)	25 (29.8)	0.48 (0.2–1.18)	0.111
	>50	39 (83.0)	8 (17.0)	1	
Level of education	Illiterate	45 (83.3)	9 (16.7)	3.40 (1.56–7.45)	0.020
	Primary school	43 (79.6)	11 (20.4)	2.66 (1.28–5.55)	0.009
	Secondary school	121 (77.1)	36 (22.9)	2.29(1.40–3.73)	0.001
	University and above	94 (59.5)	64 (40.5)	1	
Occupation	Student	55 (67.1)	27 (32.9)	0.61 (0.34–1.07)	0.082
	Employee	90 (66.2)	46 (33.8)	0.58 (0.36–0.94)	0.028
	Not working	158 (77.1)	47 (22.9)	1	
Income	High	10 (55.6)	8 (44.4)	0.35 (0.12–0.99)	0.047
	Moderate	214 (70.4)	90 (29.6)	0.66 (0.39–1.13)	0.129
	Low	79 (78.2)	22 (21.8)	1	

OR: Crude Odds Ratio; C.I.: Confidence Intervals

Nurse introducing herself to the patient (57.2%), Nurse being respectful (82.8%), Nurses' response to the patient appeal (73.1%), and Nurses' explanation of the medication she provided 78.5%. Many researchers documented a high satisfaction with nursing services in different settings [27, 62]. The possible explanation for that is the kindness of nurses and good communication with patients [28–30].

The findings of this study confirmed that food services recorded the highest satisfaction (91.1%) among the study participants. This pattern is similar to many studies conducted in KSA. The Ministry of Health patient satisfaction report produced a satisfaction of 81.22% with food. A study conducted in Makkah showed that 78.8% of patients were satisfied with hospitals' quality of food services [10]. The satisfaction with the hospital rooms' cleanliness was 72.3% and 79.2% for the maintenance of appropriate room temperature. Additionally, a study conducted in Riyadh ended with a 79.6% satisfaction rate for the cleanness of treating rooms and 78.1% for the maintenance of room temperature [31].

These findings are also consistent with the Ministry of Health patient satisfaction report [20]. Our findings showed an increase in patient satisfaction with the increase in patient's age While the satisfaction level was about 70% for patients aged <50, it was



83% for those aged >50. This finding is supported by the literature that showed that older patients tend to have a higher satisfaction level [32–34].

Binary logistic regression analysis suggested that uneducated patients and patients with secondary school education were more likely to have lower satisfaction levels than the university-educated patients. This is also consistent with previous research indicating the negative association between education level and level of satisfaction [33–36].

## Limitations

Our research has some limitations that should be mentioned; first, the research was conducted only in Jazan region, which decreases the potentiality of generalizing the study results to the other areas in KSA. Second, data were collected using a self-reported questionnaire, a method which is a source of potential error. Finally, patient satisfaction is a patient's expectations for their care encounter. Hence, it is a subjective healthcare measure [37, 38], as two patients receiving the same services may have different opinions. Despite these limitations, our study for the first time provided an estimate for the level of satisfaction with the healthcare services provided in the general hospitals of Jazan region.

## 5. Conclusion

The satisfaction level of Jazan population with healthcare services was high. However, there were some aspects of dissatisfaction, including the waiting period before seeing the doctor, admission management, and hygiene in public places. These aspects are recommended to be improved to ensure high-quality services are provided by the general hospitals in Jazan.

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## Ethical Considerations

The current study was conducted following the KSA ethical regulations guidelines. The ethical approval for the current study was obtained from the ethical committee of Jazan Hospital (#1806) and the ethical committee of Jazan University.

## Competing Interests

None.

## Availability of Data and Materials

All data and materials used in the study are available from the corresponding author upon reasonable request.

## 6. Funding

None.

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