Original Article

Patient satisfaction with the emergency department services at an academic teaching hospital

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Abstract

Introduction: Healthcare reform efforts focus on patient-centered care is measured by patient satisfaction. Emergency department (ED) satisfaction ratings are often the lowest. Since ED is the first point of contact for the patient care to receive primary care, we aimed to explore patient satisfaction related to ED healthcare services at our institution. **Methods:** In this cross-sectional study, ED-CAHPS, a standardized validated nine-item survey questionnaire, was administered via telephonic interviews to Arabic-speaking patients who attended ED at our institution. Patient demographics, ED operation parameters, and healthcare utilization factors were evaluated as patient satisfaction predictors. **Results:** Out of 713 patients who were contacted 200 patients responded to the survey. In all, 70% of respondents were aged 35-64 years and 55% had secondary or higher education levels. The dimension average for the questions regarding arrival, waiting time, and urgency of treatment was 36%. Regarding satisfaction with pain management was 42%, medication information was 34% and interpreter services were only 40%. The overall dimension average for satisfaction regarding nursing care was 43%, doctor care was 36%. The overall dimension average for satisfaction regarding the discharge process was 56%. The highest scores were observed for whether the patients were asked about follow-up care (61%), whether they understood the symptoms to look for after leaving the ED (58%), and whether they received care within 30 min of arriving at the ED (56%). On the other hand, the worst scores were recorded for whether the patients were made to understand regarding the side effects of new medications (29%), whether nurses spent enough time with them (33%), and whether doctors spent enough time with them (34%). **Conclusions:** Based on these results, recommendations were made to improve patients' perceptions/experience in receiving the care and the overall rating. This study presents specific recommendations for maximizing patient satisfaction in primary ED settings in Saudi Arabia.

Keywords: Emergency department consumer assessment of healthcare providers and systems (ED-CAHPS), healthcare, hospital management, patient satisfaction

Introduction

Recent healthcare reform efforts have increasingly focused on patient-centered care, which emphasizes individual care and expects active patient participation in decision-making.[1] Patient satisfaction metrics are used to measure the extent to which healthcare providers achieve true patient-centered care,[2] and they are financially becoming increasingly important.[3] Although the association between patient satisfaction and clinical quality and outcomes has been studied in other healthcare settings,[3] little is known regarding the factors associated with higher patient satisfaction, methods for improving satisfaction, and precise effects of patient satisfaction on healthcare outcomes for emergency department (ED) patients. Previous studies have identified that timeliness of care, provision of information, staff

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empathy/attitude, and pain management are the service factors that influence ED patient satisfaction.[4]

Patient satisfaction metrics are important indicators of emergency care quality.[5] Quality healthcare is defined as care that meets or exceeds patients' needs and expectations.[5] ED is a pivotal healthcare setting for providing acute care services,[4] and understanding the relationship between patient satisfaction and ED care level is increasingly important.[4] Patient satisfaction surveys offer organizational leaders clear insights into ED inner workings. EDs handle 28% of all acute care visits in the USA, and emergency center referrals have increased in recent decades.[6] ED performance also affects the performance of other hospital departments.[6] Yet, ED satisfaction ratings are often the lowest among various healthcare settings.[7]

ED setting plays a key role in the satisfaction of health service consumers.[8] To improve care quality and meet patients' needs and expectations, the satisfaction levels of patients regarding ED care needs to be analyzed.[9] Measures to improve the experience patients have on ED arrival are crucial for promoting good patient experience. Using patient satisfaction surveys, hospital managers can gain clear insights into ED inner workings.[10] Moreover, awareness of patients' perceptions of medical needs and emergencies helps ED nurses to evaluate and classify patients.[11]

Previous studies have stressed on the evaluation of patients' satisfaction as a measure to improve healthcare service quality.[12] Moreover, patient satisfaction surveys are important quality improvement tools that are gaining momentum worldwide.[13] In a study conducted at Moroccan University Hospital, 66% of patients were satisfied with the overall care provided and 69.8% stated that they would return to the hospital.[14] Waiting time and test result delays are frequently reported issues.[15] Another study revealed that 87.9% of patients were satisfied with the services they received and that sex, place of living, education level, marital status, age, and income are the factors that affect patients' satisfaction ratings.[16] At another hospital in Southern Ethiopia, 91.7% of patients expressed satisfaction with the ED staff.[17]

Recently, Saudi Arabian government hospitals conducted studies concerning patients' satisfaction as a way to implement the aim of the Ministry of Health's vision 2020 program: "carrying health conditions or health status of Saudi inhabitants to the best and highest possible level."[18] We aimed to address the gap regarding patient satisfaction levels toward ED healthcare services at our academic teaching institution.

Methods

Study design

This was a cross-sectional, observational, convenience sample study with the primary aim of objectively assessing the factors related to patient demographics, ED operation, and healthcare utilization as predictors of patient satisfaction. This study was reviewed and approved by our institution Institutional Review Board (KFMC IRB LOG No: 18-254).

Selection of participants

A trained phone surveyor contacted Arabic-speaking patients who had attended our institution ED to complete a standardized nine-item telephonic survey. This ED satisfaction survey was conducted over 4 weeks ending 2018. All data were collected by calling on the respondents' phones and obtaining verbal responses to survey questions from the patients. Exclusion criteria were patients admitted following their ED visit and those who visited 1 year before the study period.

Intervention Emergency department consumer assessment of healthcare providers and systems (ED-CAHPS) survey instrument

The pilot survey of ED-CAHPS, developed by the Centers for Medicare & Medicaid Services, is currently available for use. Patients were asked questions referring to specific timeframes regarding satisfaction. Questions had a 1-5 scoring scale. Patients were asked to assess their medical condition related to the day of their visit; their understanding of the discharge instructions they received; their confidence and trust levels in the physicians who treated them; and satisfaction ratings for their overall experience, physician, nurse, and advanced practice provider.

We used a back-translation method to translate ED-CAHPS through experts in the subject who verified the translation quality. Owing to cultural considerations, some non-substantive items/questions were modified and some were excluded (e.g., question about ethnicity). The survey took approximately 15 min to complete and assessed the experiences of patients with following ED care dimensions: arrival, waiting time, and urgency of treatment (three items); medications (three items); pain management (one item); follow-up on tests/results (one item); interpreter services (one item); nursing care (four items); doctor care (four items); discharge (four items); overall rating (one item); and likelihood to recommend (one item).

The "top box scoring methodology" to report all ED-CAHPS scores.[19] "Top box" scores refer to the percentage of patients whose responses indicate excellent performance for a given measure.[20] These scores involve just one number rather than a statistical calculation based on multiple numbers.[20] These scores are considered categorical scoring because the emphasis is on the scores for a specific *category* of responses.[20]

Results

Respondent demographics

In total, 713 patients who received ED services at our institution were contacted; among whom 200 patients responded to the survey. Thus the overall response rate was 28%. Among the respondents, most (70%) respondents were aged 35-64 years [Table 1] and 55% had secondary or higher education level [Table 1]. Regarding visits to our institution ED in the preceding 6 months, 30%, 24%, 15%, 15%, 12%, and 4% of respondents reported having made 1, 2, 3, 4, 5-9, and ≥10 visits, respectively [Table 1]. Regarding the purpose of visit to

Table 1: Distribution of participants' age, educational levels (self-reported), number of visits to the emergency department (ED) over the preceding 6 months, and reasons for ED visit

Parameters		Number (*n*)	Percentage (%)
Age (years)	18-24	8	4%
	25-34	18	9%
	35-44	46	23%
	45-54	50	25%
	55-64	44	22%
	65-74	26	13%
	>74	8	4%
Self-reported educational level	Primary or lower	50	25%
	Secondary education	52	26%
	Intermediate education	40	20%
	University education	58	29%
Number of visits to the ED in the preceding 6 months	1 time	60	30%
	2 times	48	24%
	3 times	30	15%
	4 times	30	15%
	5-9 times	24	12%
	≥10 times	8	4%
Reasons for ED visit	New health problem	88	44%
	Ongoing health concern	104	52%
	Injury or accident	8	4%

ED, 52% of respondents cited an ongoing health problem or concern, 44% cited a new health problem, and 4% cited treatment for accident-related injuries [Table 1].

Questionnaire responses

Tables 2-5 provide ED-CAHPS survey data on patients' satisfaction levels regarding ED services. The dimension average for the questions regarding arrival, waiting time, and urgency of treatment was 36% in our institution Tables 2 and 3.

The overall dimension average regarding pain management satisfaction was 42% [Tables 2 and 3]. The overall dimension average for medication information was 34% [Tables 2 and 3]. Satisfaction regarding interpreter services was only 40% [Table 3]. The overall dimension average for satisfaction regarding nursing care was 43% [Tables 2 and 3]. Similarly, the overall dimension average for satisfaction regarding doctor care in the 2018 survey was 36%, [Tables 2 and 3]. The overall dimension average for satisfaction regarding the discharge process was 56% in our institution survey [Tables 2 and 3].

The average dimension score for patients' overall rating of their ED experience was 43% [Table 3]. Regarding average dimension score for the likelihood to recommend our institution ED services to friends and family, average dimension score was 44% [Table 3].

The results of the correlation of selected satisfaction domains with patients' overall rating of our institution ED using Spearman's rank correlation coefficient are presented in Table 4. Moderately strong positive correlations were observed with the overall rating for our institution ED across all assessed domains.

ED-CAHPS items with the highest and lowest "top box" scores are presented in Table 5. The highest scores were observed for whether the patients were asked about follow-up care (61%), whether they understood the symptoms to look for after leaving the ED (58%), and whether they received care within 30 min of arriving at the ED (56%). On the other hand, the worst scores were recorded for whether the patients were made to understand regarding the side effects of new medications (29%), whether nurses spent enough time with them (33%), and whether doctors spent enough time with them (34%).

Limitations

The present survey does not represent a detailed analysis of the emergency services in the kingdom since it was conducted at a single hospital only.

Discussion

Comparison with previous study cohorts

The age distribution of the respondents was similar to that of other studies in Saudi Arabia.

Regarding ED utilization, most epidemiological research on the utilization of emergency services defines frequent users as those who visit ED ≥3 times over 6 months.[21] In all, 46% of our institution's ED patients were frequent users, which is more than the figures reported for other studies.

The percentage of our institution patients who visited ED for ongoing health or concern was less than that reported in the literature.[22] Further, the percentage of patients who visited our institution to receive care for injuries resulting from an accident was less than the results from similar studies.[22] EDs are a gateway of primary care for the patient because they are the first point of encounter that many patients have with the hospital; thus, it is the place where positive or negative perceptions of the hospital are possibly formed.[23] Waiting time in ED is a major source of patient dissatisfaction in hospitals and fast physician consultation of patients, promotes the efficiency of care, and shortens the length of stay.[24-26] Also, addressing pain is a vital responsibility of ED care providers; therefore, pain treatment should be a priority among acute care providers but isolated initiatives may not succeed in this area.[27,28] Patients' understanding of their medications is vital and lack of medication adherence leads to unnecessary disease progression, complications, decreased functional abilities, lower quality of life, and death.[29,30]

Patient satisfaction Tests/results

In the current survey, about one-third of patients thought that doctors and nurses provided as much information as they wanted regarding the results of their tests. There is a similar level of variability regarding the extent and variability of test

Table 2: Survey data with respect to patients' satisfaction levels regarding emergency department (ED) services in terms of arrival, waiting time, and treatment urgency; medication; nursing care; doctor care; and discharge

ED care dimension	Measures	Top box score
Arrival, waiting time, and treatment urgency	When you first arrived at the emergency room, how long was it before someone talked to you about the reason why you were there?	29%
	During this emergency room visit, did you get care within 30 min of getting to the emergency room?	56%
	During this emergency room visit, were you provided with information about waiting time?	23%
	Dimension average	36%
Medication	During this emergency room visit, did the doctors or nurses ask about all of the medicines you were taking?	37%
	Before giving you any new medicine, did the doctors or nurses tell you what the medicine was for?	35%
	Before giving you any new medicine, did the doctors or nurses describe possible side effects to you in a way you could understand?	29%
	Dimension average	34%
Nursing care	During this emergency room visit, how often did nurses treat you with courtesy and respect?	51%
	During this emergency room visit, how often did nurses listen carefully to you?	41%
	During this emergency room visit, how often did nurses explain things in a way you could understand?	46%
	During this emergency room visit, did nurses spend enough time with you?	33%
	Dimension average	43%
Doctor care	During this emergency room visit, how often did doctors treat you with courtesy and respect?	38%
	During this emergency room visit, how often did doctors listen carefully to you?	35%
	During this emergency room visit, how often did doctors explain things in a way you could understand?	37%
	During this emergency room visit, did doctors spend enough time with you?	34%
	Dimension average	36%
Discharge	Before you left the emergency room, did you understand what your main health problem was?	52%
	Before you left the emergency room, did you understand what symptoms or health problems to look out for when you left the emergency room?	58%
	Before you left the emergency room, did a doctor or nurse tell you what the new medicines were for?	54%
	Before you left the emergency room, did someone ask if you would be able to the follow-up care you need	61%
	Dimension average	56%

Table 3: Response dimension average for 2015, 2017, and 2018, for arrival, waiting time, and treatment urgency; pain management; medication; test results; interpreter services; nurse care; doctor care; discharge; overall rating; and likelihood to recommend

ED care dimension	2015	2017	2018
Arrival, waiting time, and urgency of treatment	34%	35%	36%
Pain management	35%	38%	42%
Medication	28%	30%	34%
Tests/results	33%	36%	39%
Interpreter services	30%	20%	40%
Nursing care	31%	36%	43%
Doctor care	28%	30%	36%
Discharge	53%	54%	56%
Overall rating	37%	39%	43%
Likelihood to recommend	37%	41%	44%

follow-up failure in the inpatient (20.04%-61.9%) and ED settings (1%-75%).[31] The follow-up of test results by nurses and doctors is vital for patients' satisfaction with ED care quality.[31] Failure to do this can lead to complications in patients who think that the healthcare provider does not care about them and need multifaceted solutions.[31,32] Previous studies have reported wide variability regarding the extent of the problem, ranging from 6.8% to 32% for missed laboratory tests and from 13.1% to 35.7% for missed radiology results.[33]

Patient satisfaction: Interpreter services

In this study, less than half of the respondents answered affirmatively on whether they were offered an interpreter during their emergency room visit if they needed one. Health interpreters facilitate communication between patients and their care providers, such as physicians, nurses, and lab technicians, when they are unable to speak the same language.[34] However, in the context of primary healthcare in Saudi Arabia, interpreters are frequently called upon to assist patients in their communication with care providers who are only able to speak in English.[35] Several studies have documented that quality of care is compromised when patients need but do not get interpreters as there is a dearth of them.[36,37] Trained professional interpreters and bilingual healthcare providers positively affect patients' satisfaction, quality of care, and outcomes.[37] Evidence suggests that optimal communication, patient satisfaction, patient outcomes, and fewest interpreter errors occur when patients

Table 4: Results of a correlation analysis performed using Spearman's rank correlation coefficient. (Comparisons were made between ordinal data obtained from individual assessment domains of ED-CAHPS and patients' overall score related to ED).

Questions	Spearman's rank correlation coefficient
Were you provided with information about waiting time?	0.42
How often did nurses listen carefully to you?	0.42
Did doctors spend enough time with you?	0.43
How often did doctors listen carefully to you?	0.45
How often did doctors explain things in a way you would understand?	0.49
How often did nurses explain things in a way you could understand	0.50
Would you recommend this ED to your friends and family?	0.59

Table 5: ED-CAHPS items/indicators with the highest, lowest, and top box scores.

ED-CAHPS items/indicators with the highest "top box" scores	
Before you left the emergency room, did someone ask if you would be able to return for the follow-up care you need?	61%
Before you left the emergency room, did you understand what symptoms or health problems to look out for when you left the emergency room?	58%
During this emergency room visit, did you get care within 30 min of getting to the emergency room?	56%
Before you left the emergency room, did a doctor or nurse tell you what the new medicines were for?	54%
Before you left the emergency room, did you understand what your main health problem was?	52%
ED-CAHPS items/indicators with the lowest "top box" scores	
During this emergency room visit, were you provided with information about visit time?	23%
When you first arrived in the emergency room, how long was it before someone talked to you about why you were there?	29%
Before giving you any new medicine, did the doctors or nurses describe the possible side effects to you in a way you could understand?	29%
During this emergency room visit, did nurses spend enough time with you?	33%
During this emergency room visit, did doctors spend enough time with you?	34%

have access to trained professional interpreters or bilingual care providers.[38]

Patient satisfaction: Nursing care

In this study, responses ranged from one-third in affirmative "During this emergency visit, did nurses spend enough time with you?" and half of the patients replied positively when asked, "During this emergency room visit, how often did nurses treat you with courtesy and respect?". These results show a relatively low dimension average for satisfaction levels regarding nursing care, indicating room for improvement. The current survey contained four questions that directly assessed nursing care. Nurses are the backbone of EDs and the "face" of the care that patients receive.[39] ED nurses must possess general and specific knowledge regarding healthcare to provide quality care to patients of all ages.[40] ED nurses must be ready to treat numerous illnesses or injuries, ranging from a sore throat to the heart attack.[40] Some EDs do not hire fresh nursing graduates because nurses with a firm foundation in basic nursing skills are required owing to the time-related criticality of emergencies.[40] Given the current shortage of available nurses, many EDs are hiring new nurses and training them in the skills needed for successful careers in EDs.[41] Emergency nurses must tackle diverse tasks with professionalism, efficiency, and, above all, a caring attitude.[42]

Patient satisfaction: Doctor care

Similar to the nursing care-related questions, four questions specifically assessed the care offered by the doctors. One-third of the patients agreed on "During this emergency room visit, did doctors spend enough time with you?" and a similar number agreed on doctors treating them with courtesy and respect. These results show a relatively low dimension average for satisfaction regarding doctor care, indicating significant scope for improvement.

The enduring popularity of the long-running television show *ER* may serve as a testament to the public's fascination with emergency medicine and the doctors who practice it.[43] In clinical settings, just as on the show, effective doctor-patient communication is a central clinical function in building a therapeutic doctor-patient relationship, and it is critically important for delivering high-quality ED care.[44] The communication and interpersonal skills exhibited by ED doctors involve the ability to gather information to facilitate accurate diagnosis, provide appropriate counseling, provide therapeutic instructions, and establish caring relationships with patients.[44] For EDs to make meaningful progress in enhancing patient care, safety, satisfaction, and quality, staff must listen and respond to patients and families and communication delays must be avoided.[45] Treating patients as individuals, managing their pain, and providing adequate information on treatment is crucial, as are patient safety elements.[45]

Patient satisfaction: Discharge

In the present study, only half of the patients agreed to have understood their main health problem and enquiring about the follow-up care before discharge. Although these results show a relatively higher dimension average than other dimension

averages, there is certainly scope for improving this aspect as well. Failure to manage the discharge process of patients from ED can effectively and efficiently lead to a hospital bed shortage. Therefore, EDs are under pressure to provide care that is safe, effective, patient-centered, timely, efficient, and equitable—a challenging task under any circumstances, but one that is even more difficult in the presence of ED crowding.[46] The causes of poor management of ED discharge are multifactorial and reflect problems mainly in the domains of written and verbal communication.[46] It is important that the discharge process promotes safety and that care team members should focus on building transitional skills and services.[47] Several studies have established that shows that poor patient experiences during and after discharge (many of which can be avoided through improved communication) can leave patients feeling dissatisfied with the healthcare they receive, regardless of otherwise exemplary service.[47]

Patient satisfaction: Overall rating

In this study, the average dimension score for overall patient satisfaction regarding ED services was less than half of the patients. Effective measurement of ED satisfaction is a complex task and has led many service marketing scholars to identify key patient satisfaction metrics.[47] Across the different settings in the health service industry, one of which is ED, three key health satisfaction measurements are critical to healthcare provider success: overall rating measure (emotional measure), loyalty measure (affective, behavioral measure), and intention to repurchase measure (behavioral measure).[44]

ED-CAPHS evaluates respondents' overall satisfaction using a single overall rating indicator, which is an emotional measure. This measure reflects patients' overall experience with our institution's ED, and it was subsequently considered among other key satisfaction metrics related to loyalty such as *willingness to recommend*. The distinction between dimension-specific satisfaction and overall rating of the service has received little empirical attention in the literature in the fields of service marketing satisfaction. However, our results suggest that overall ratings have a moderating influence on dimension-specific satisfaction.

Patient satisfaction: Likelihood to recommend

Our study showed that about half of the patients stated that they would recommend our institution ED to their friends and family. Moreover, *likelihood to recommend* was the individual domain that most highly correlated with respondents' overall rating of our institution ED. This can be explained by the fact that *overall rating* and *likelihood to recommend* items/indicators are key customer satisfaction metrics. Indeed, both items/indicators provide an overview of respondents' satisfaction with a specific service.

The likelihood that a patient will recommend a service offered by a hospital is a key loyalty metric, and it is often described by the most health marketing manuals as an affective/behavioral measure.[48] Loyalty is an attitudinal and a behavioral tendency to favor one service provider over others, and it can be the result of the satisfaction with the service, its convenience or performance, or simply familiarity and comfort with the service provider.[48] Although patient satisfaction is a major predictor of loyalty, research shows that the likelihood to recommend is strongly influenced by explicit performance evaluations of service performance, quality, and value.[48] Loyalty can be defined as *patients continuing to believe that the hospital serving them is their best option*. Loyal patients are a key resource for any hospital as they are likely to continue using a service even if they face service failure or other issues[49] as they have had a good hospital experience in the past and they feel that the hospital addresses issues when encountered.[49] Loyal patients are a key asset for public hospitals as they demonstrate increased tolerance to service failures; these patients are likely to invest the effort and time needed to communicate with hospitals, thereby driving service improvement.[49] Likelihood to recommend is considered a key patient satisfaction metric along with patients' overall rating of the hospital.[50] Likelihood to recommend is occasionally calculated through a net promoter score.[50]

The attentiveness of providers/clinicians, in addition to their interpersonal competence, encompasses aspects of care; these include spending enough time with patients, providing patients with information in an understandable manner, and treating patients with courtesy and respect.[48] Predictably, most items that highly correlated with respondents' overall rating of our institution ED were related to the respondents' interpersonal interactions with providers/clinicians during their ED visits. The ability of doctors and nurses at our institution ED to explain things to patients in a manner that they could understand had a moderately strong and positive correlation (0.49) with their overall satisfaction and rating of ED services. The correlation analysis showed a theme of the relationship between doctors' and nurses' attentiveness and interpersonal competence with the respondents' overall rating of ED. Being informed about the waiting time showed a moderately strong and positive (0.42) correlation with patients' overall rating of our institution ED. This is consistent with the evidence from research emphasizing that ED patients' experience can be improved by simply informing patients about how much waiting time they can expect.[48] This decreases anxiety and confusion, thereby leading to improved perceptions of healthcare services.[51]

Conclusion

A "see and treat" approach, using low-cost interventions, improving interpersonal interactions and provider communication, redesigning of patient flow and process mapping examining the role of ED bottlenecks and changing patients' perceptions of waiting times in hospitals as well as primary care settings will help in improving patient satisfaction in specific and measurable ways.

The current study's results indicate that systematic streamlining of policies regarding patient flow and patient approach for

healthcare providers in primary healthcare facilities as well as in tertiary care hospitals will considerably decrease wait times for patients in EDs. Moreover, patients' outlook about the healthcare delivery system can be improved considerably by emphasizing interpersonal interactions and ensuring good communication skills in healthcare staff.

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Conflicts of interest

There are no conflicts of interest.

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