

## Survey of Patient's Expectations, Satisfaction and Willing to Return to Emergency Department at King Fahd Hospital

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### Abstract

**Background:** Emergency Department (ED) provides crucial services for life threatening conditions. The number of patient utilizing ED is increasing. Patients' expectations are important aspects to be considered in order to improve their satisfaction and willingness to return to ED in case of future events. The objective of this study was to explore patients' expectations, level of satisfaction and willingness to reuse the ED.

**Methods:** A descriptive, cross-sectional design was employed with a convenience sample of 110 subjects who visited the ED at King Fahd Hospital, King Abdu Aziz Medical City, Riyadh, Kingdom of Saudi Arabia. Demographic characteristics and data on patients' expectations, satisfaction and willingness to reuse the ED were assessed during patients' interview.

**Results:** The majorities of participants were in the age group 30 to 49 years old, females, married, graduated from high school, Saudi, residents of Riyadh, have health insurance with the same ED, and were not working. The reason for visiting the ED was mainly different kinds of pain. The median time to see a physician was 30 minutes and 2 hours to see a specialist. Patients' reported that when they visited the ED they expected: to be told about expected waiting time, to be seen by a physician within acceptable time, the process and procedures of the visit to be organized, and the ED staff to be caring and cooperative. Patients' expectations were compromised at some levels. The overall level of patients' satisfaction was high as reported by a mean of 58(1.5). Issues such as seen by a specialist when needed, fair treatment, medical supplies and resources, ED location, and the decision about my case were associated with high level of patients' satisfaction. On the other hand, an uncomfortable waiting area, no bed available, and over all waiting time were critical for patients' dissatisfaction. In addition 64% of participants reported that they would return ED in case of future events, and only 10.9 % of participants reported that they would not return to ED if they experience future events.

**Conclusion and Recommendations:** In the present study, patients' expectations were compromised at some levels. Patients' satisfaction was high and issues associated with dissatisfaction are manageable. A more consistence approach in surveying patients' expectations would help to develop appropriate strategies to meet these expectations, maintain high level of patients' satisfaction and increase their willingness to reuse the same ED in the future.

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## Introduction

Emergency Department (ED) provides crucial services for life threatening conditions. The number of patient utilizing ED is increasing every day with different kinds of health problems (Monzon et. al., 2005). Patients visiting the ED expected to be considered by the health care providers, and expected to get their health problem relieved within acceptable period of time. Patients' expectations are important aspects to be considered in order to improve patient's satisfaction and willingness to return to ED in case of future events (Perron et al. 2003). Patients' satisfaction is defined as the degree of matching between individual's expectations and actual experiences (Pascoe, 1983). Satisfaction is beneficial for both patients and health care systems. Satisfaction with health care improve patients' adherence to treatment, and needed for quality improvement (Aharony & Strasser, 1993). With crowded ED, patient's expectations and satisfaction are potential for compromising. The objectives of this study were to explore patients' expectations from ED, assess level of patients' satisfaction with ED services, and to discover patients' willingness to reuse the same ED in future.

## Methods

### Design

A descriptive, cross-sectional design was employed for the present study.

### Sample and setting

A convenience sample of 110 subjects who visited the ED at King Fahd Hospital, King Abdul-Aziz Medical City, Riyadh, Kingdom of Saudi Arabia were interviewed. King Fahd hospital is a very large tertiary level teaching facility that serves many areas in Riyadh City.

## Measurements

The study survey was modified from previous related literatures based on the objectives of the study (Yan, Wan & Li, 2011; Aragon and Gesell, 2003; Sun et al., 1999; Cleary et al., 1991). The study survey consists of 3 parts. Part 1 is the demographic characteristics of the sample which include age, gender, marital status, education, occupation, nationality, health insurance, reason for visiting the ED, time visited the ED, time registered and assessed by the nurse, and time checked by a physician. Part 2 is the patients' expectations from the ED; patients were asked 2 questions "when you visited the ED, what did you expected?" Patients' responses were categorized in table 2. The second question is "If your expectations were or were not met, would you please rate your agreement regarding each expectation?" Responses to this question are 5-points Likert scale (5) Excellent, (4) Very good, (3) Good, (2) Fair, and (1) Poor.

Part 3 is related to patients' satisfaction with ED service scale. The scale consists of 3 categories with a total of 14 items. The 3 categories are the ED staff (6 items), ED environment (5 items) and ED process (3 items). Items under ED staff are: I got enough explanation for my health problem, procedures, test and treatment, I got an answer to my questions and concerns, I was seen by a specialist when needed, I got help from the ED staff when I needed help, the decision about my case was satisfied to me, and I was treated fairly. Items under ED environment were; the ED location was suitable for me, the ED waiting area/ward was clean and comfortable, there were facilities such as TV, magazines/news in waiting area, the medical supplies and resources were enough, and there was a bed available for me. The 3 items under the ED process were; the registration, assessment, checks up, tests and procedures were organized, the admission/discharge and follow up procedures and appointments were made for me, and the overall waiting time was fine with me. Responses to the 14-questions are 5-points Likert scale (5) Strongly agree, (4) Agree, (3) Neither agree nor disagree, (2) Disagree and (1) Strongly disagree. The score ranges from 14 to 70, the higher the score, the higher the level of satisfaction.

Willingness to return to the ED in case of future events was assessed by asking the participants a single question "In case you experienced a health problem in the future, would you come back to this ED?" responses to this question is a yes/no/not sure scale. One more question was added "What conditions you would accept to wait at ED without being frustrated?" This question was asked to assess reasons why participants would not reuse same ED in case of future events. Participants were also asked to provide suggestions to improve the service at ED.

Content validity of the survey was assessed by 3 specialty nursing faculties. The survey was also piloted on 20 subjects for visibility and clarity of questions. There were similarity between 2 questions and they were modified into one question. The 20 subjects used for pilot were excluded from the final data analysis. Reliability of the survey was tested after data collection and Chronbach's alpha reported as .73 which considered acceptable.

### **Procedure of data collection**

Data for the present study were collected from October 2012 to January 2013. Patients were approached at the adult ED at King Fahd Hospital, King Abdu Aziz Medical City, Riyadh. Patient were interviewed after registration while they were waiting to be seen by a physician, while they were already under observation at the urge care unit, while waiting for further investigation or waiting to see a specialist. Very ill patient and patients who experience MVA and needs emergency care were not included in the study. Patients under 18 years old were also excluded. Ethical considerations were met through telling participants about the study purposes, voluntary of participation, the right to withdraw at any time during the interview and about the confidentiality of their information. Oral consents were obtained from patients who agreed to take a part of the study. Data were collected by investigators through a semi-structured interview that lasts from 15 to 20 minutes.

### **Data analysis**

Data were entered in SPSS version 16; data cleaning, validation and screening for missing data were assured. Descriptive statistics were used to describe the demographic characteristics of the study sample. Frequency distribution and percentages were used to portray patients' expectations and satisfaction. Correlation analysis was used to explain the relationship between demographics and satisfaction.

### **Results**

Forty eight per cent of participants were in the age group of 30 to 49 years old. Sixty-seven per cent of the study sample was females. Majority was Saudi and lives in Riyadh city. Thirty-eight per cent graduated from high school and 15.5 graduated from college. Fifty-seven per cent were married and 64.5% have health insurance with the ED at the study setting. In addition, 54% of the study sample was not working. In 53.6 % of participants, the main reason for visiting the ED was reported as having pain of different kinds such as abdominal, renal, or chest pain. About 20% of the participants visited the ED for different kinds of problems such as maternity problems, GIT disturbance (vomiting and diarrhea), fevers, and injuries, while 16.4 % of participants visited the ED after having motor vehicle accidents for minor wounds and injuries. The median waiting time to be checked by a physician was 30 minutes and 2 hours to see a specialist if the case needed. Sample characteristics are shown in table 1.

**Table 1: Characteristics of the sample**

<b>Item</b>	<b>Number 110</b>	<b>%</b>
Age		
18-29	32	29.1%
30- 49	53	48.2%
50 and older	25	22.7%
Gender		
Male	36	32.7%
Female	74	67.3%
Marital status		
Single	35	31.8%
Married	63	57.3%
Divorced	3	2.7%
Widowed	9	8.2%
Education		
Illiterate	22	20%
Elementary	14	12.7%
Middle school	10	9%
High school	42	38.2%
College student	17	15.5%
University graduate	5	4.5%
Occupation		
Employed	33	30%
Not employed	60	54.5%
Students	17	15.5%
Residence		
Central region	95	86.4%
East	7	6.4%
North	3	2.7%
South	5	4.5%
Health insurance		
Insured	71	64.5%
Not insured	39	35.5%
Nationality		
Saudi	94	85.5%
Non Saudi	16	14.5%
Reason for visiting ED		
Different kinds of pain	59	53.6%
MVA	18	16.4%
Respiratory problems	11	10%
Others (maternity, GIT, fever, injuries)	22	20%

Regarding patients' expectations, participants were asked to tell what they were expecting from the ED during their visit and to rate their agreement if their expectations were met on a 5-points Likert scale. Patients' responses were categorized as; expected to be told about the anticipated waiting time, expected to be seen by a physician within suitable period of time, expected the process and the procedures to be organized, expected the ED staff to be cooperative and caring. Results showed that 16% , 24% and 20% of participants reported that their expectation of being told about anticipated waiting time were rated as excellent, very good and good respectively. Expected to be seen by a physician within suitable period of time was rated as excellent by 27%, very good by 23% and good 22% of participants. In addition, 24%, 16%, 29, and 24% rated their expectation about the process and procedures of the visit to be organized as excellent, very good, good and fair respectively. Further, 28%, 19%, 13%, and 29% of participants rated the cooperation and caring of ED staff as excellent, very good, good and fair respectively. Patients' expectations are showed in table 2.

**Table 2: Patients' Expectations from ED**

<b>Expectation</b>	<b>Excellent (5)</b>	<b>Very good (4)</b>	<b>Good (3)</b>	<b>Fair (2)</b>	<b>Poor (1)</b>
To be told about anticipated waiting time	16%	24%	20%	13%	27%
To be seen by a physician within suitable period of time	27%	23%	22%	19%	9%
The process and procedures to be organized	24%	16%	29%	24%	7%
ED staff to be cooperative and caring	28%	19%	13%	29%	11%

Regarding patients' satisfaction, results of the present study indicated that the overall level of patients' satisfaction was high as reported by a mean of 58(1.5). Satisfaction in this study was related to 3 main categories. The first category was ED stuff, 55% of participants strongly agreed and 23% agreed that they were seen by a specialist when needed. 45% strongly agreed, and 33% agreed that they were treated fairly. 30% strongly agreed and 25% agreed that the decision about their case was satisfied for them. In addition, 28% of participants strongly agreed and 26% agreed about the item "I got enough explanation for my health problem, procedures, tests and treatment".

High satisfaction with ED environment was more likely to be related to availability of supplies and resources that rated as excellent by 51% and as very good by 32% of the subjects respectively. 45% strongly agreed that the ED location was suitable for them. Participants

reported a moderate to low level of satisfaction related to the availability of beds for them at the time they visited the ED as 31% disagree, 13% strongly disagree, and 21% neither agree nor disagree about this item.

Subjects in the present study reported a considerable level of satisfaction regarding the ED process since almost similar percentages were strongly agree (33%), agree (32%) about the registration, assessment, check up, tests and procedures were organized. Similarly, 31% strongly agreed, 27% agreed that admission/discharge and follow up procedures and appointments were made for them. On the other hand, 53% of participants strongly disagreed and 15% disagreed that the overall waiting time was fine with them. Patient satisfaction is shown in table 3.

**Table 3: Patients' satisfaction**

Category	Strongly agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)
ED staff					
• I got enough explanation for my health problem, procedures, test and treatment	28%	26%	19%	16%	11%
• I got an answer to my questions, and concerns	25%	24%	20%	43%	13%
• I was seen by a specialist when needed	55%	23%	8%	5%	9%
• I got help from the ED staff when I needed help	55%	23%	11%	10%	1%
• The decision about my case was satisfied to me	30%	25%	18%	14%	13%
• I was treated fairly	45%	33%	4%	10%	8%
ED environment					
• The ED location was suitable for me	45%	12%	10%	31%	2%
• The ED waiting area/ward was clean and comfortable	13%	9%	21%	22%	35%
• There were facilities such as TV magazines/news in waiting area	0%	0%	13%	29%	58%
• The medical supplies and resources were enough	51%	32%	11%	5%	1%
• There was a bed available for me	19%	16%	21%	31%	13%
ED process					
• The registration, assessment, check up, tests and procedures were organized	33%	32%	18%	8%	9%
• Admission/discharge and follow up procedures and appointments were made	31%	27%	17%	12%	13%
• Overall waiting time was fine with me	8%	13%	11%	15%	53%



Correlation analysis was used to examine the relationship between satisfaction and the patient's characteristics. Correlation indicated a strong significant correlation between satisfaction and expectations ( $r = .72^{**}$ ,  $p = 0.001$ ), meaning when patients' expectation were met, their satisfaction was higher. Moderate significant correlation appeared between satisfaction and ED location ( $r = .48^{**}$ ,  $p = .000$ ). Patients who live close to the ED were satisfied even if they spent more time waiting and even if their expectations were not completely met. Moderate significant negative correlation was also found between satisfaction and education ( $r = -.31$ ,  $p = .001$ ), indicating the higher the education, the lower the satisfaction. Correlation matrix among the variables is shown in table 4.

**Table 4: Correlation matrix among correlate variables**

Variable	Satisfaction	Expectations	Education	ED location
Satisfaction	-	.72**	-.31**	.48**
Expectations	-	-	.01	.30**
Education	-	-	-	.05
ED location	-	-	-	-

Regarding patients' willingness to return to the same ED in case they experience health problem in the future, 64% of patients reported yes and 25.1% reported not sure and 10.9% reported no.

To assess reasons why participants may not be willing to reuse same ED in future a single question was asked: "In what conditions would you accept to wait at ED without being frustrated?" Analysis of this question indicated that 89% of subjects reported that they can wait if there is another case that is more serious and needs more help but at the same time waiting too long for not major health problems is time consuming and does not make sense to them. A suggestions from the majority of participants in the present study recommended sending SMS or internet messages to tell about the rate of crowdedness of the ED, and then they can decide where to go.

## Discussion

Exploring patients' expectations was one objective of the present study. Four areas of expectations were identified by the patients. Patients expected to be told about the anticipated waiting time, expected to be seen by a physician within suitable period of time, expected the procedures and the process to go organized and smoothly, expected the ED staff to be cooperative and caring. Results revealed that patients' expectations were compromised at some



points. This was consistent with previous research who indicated that patients left the ED before they receive the health service due to unmet expectations such as waiting longer than they anticipated, did not get information related to their illnesses, and they did not receive help when they needed (Sun et al. 1999; Mowen, Licata, & McPhall, 1993; Qidwai et al. (2005).

Another objective of the present study was to assess patients' satisfaction with the ED. Results showed that issues such as being seen by a specialist when needed, availability of medical resources and facilities, and decision about cases were associated with high level of satisfaction. There was no available data from previous research to compare with these results. Reasons for having such results could be explained as the KFH is considered one of the best hospitals in the kingdom. It has many different people who excel in many different medical specialties. In addition, KFH has a very large budget and a wide variety of resources accessible to health insured people. These factors would mainly be associated with reported high level of patients' satisfaction in this study.

Patients' dissatisfaction in this study was critically associated with overall long waiting time, an uncomfortable waiting area, no recreation facilities such as TV, magazines, news, and no availability of beds. These results were matching with many previous works (Trout, Magnusson, & Hedges, 2008; Arendt et al. 2003; Sun et al., 1999; Lee et al. 1998; Fernandes, Price, & Christenson, 1997; Purnell, 1995; Fernandes, et al., 1994). In addition, this huge tertiary hospital has high level of occupancy and in some conditions, ED visitors who need admission has to wait to find unoccupied bed.

The present study illustrated that that 64% of participants would return to same ED in future. Those were older age, have health insurance with same ED, and the location of the ED was convenient for them. In addition, this high percentage matches the high level of satisfaction reported in this study. A quarter of participants weren't sure and 10.9% would not reuse same ED in case of future event. These results were consistent with those of Sun et al., 1999; Carrasquillo et al., 1999; McCarthy et al., 2011) who revealed that not told about expected waiting time, and questions, and fears, and waiting longer than expected were reasons for unwilling to return to ED and conclusion of care among patients.

Patients' satisfaction in this study significantly correlated with education, ED location, and expectations. Previous research reported similar association as indicated by Hall and Jelinek (2007) that patients who were dissatisfied with the ED did not wait to get health service and they were less educated.

## Conclusion

The present study aimed at assessing patient expectations from ED and exploring the level of patients' satisfaction and willingness to return to the same ED. A descriptive cross-sectional

design was used with a convenient sample of 110 patients who visited the ED at King Fahd Hospital, King Abdul Aziz Medical City, Riyadh, KSA. Data were collected by the investigators using a semi-structured interview and ethical considerations were followed. Majority of patients were young, females, married, not employed, have medical insurance with the same ED, high school educated and residence of Riyadh. Results indicated that patients' expectations were related basically to 4 issues; expected to be told about the anticipated waiting time, expected to be seen by a physician within suitable period of time, expected the procedures and the process to go organized and smoothly, expected the ED staff to be cooperative and caring. Patients' expectations in this study were compromised at some points. Although, participants reported that their expectations of seeing a physician within suitable period of time, and ED staff to be cooperative and caring were met, a considerable percentage reported that they were not told about the expected waiting time. Patients' satisfaction was associated with issues such as being seen by a specialist when needed, decision about my case was satisfied to me and having enough resources and facilities. Dissatisfaction was on the other hand associated with waiting area cleanliness, facilities and comfort, no bed available and the overall waiting time in the ED. Results of this study were comparable to previous research concerning same issues.

## Recommendations

A more consistent approach in surveying patients' expectations would help to develop appropriate strategies to improve level of patients' satisfaction and increase their willingness to reuse the same ED in the future. Using triangulation methodology would help better assessment and understanding of this phenomenon. Moreover, participants in the present study recommended having internet services or receiving SMS messages about the ED level of crowdedness to decide if they may use the ED or look for another option.

## Limitation

The study did not look at the patients who left the ED before getting the health service. Factors associated with leaving the ED without being seen by a physician is critical in identifying patients' satisfaction. The present study did not compare patient with acute or not acute condition to assess if the type of illness might have affected satisfaction. Relatively small sample size might affect generalizability of results. In addition, the small percentage of men in the study sample hindered comparing potential gender differences in satisfaction.

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