

## Measuring Emergency Department Service Quality of Government Hospitals in Saudi Arabia through Patients Satisfaction

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### Abstract

The study was undertaken to find out the patient's satisfaction from the services quality of Emergency Department service quality of the government hospitals in Saudi Arabia to suggest the major areas of which needed improvement.

The study was based on primary data collected through structured close-ended five point Likert Scale questionnaire to the people of Saudi Arabia who had the experience of the treatment in Emergency Department of government hospitals. The Five point Likert Scale measure the satisfaction level of patients' from highly satisfied to least satisfied. Ten variables identified to represent the Emergency Department Services in general. Convenience sampling method was used to collect data method from 400 respondents and received 367 usable questionnaire.

The findings of the study showed that the patients in general were not satisfied with the Emergency Department service quality of government hospitals.

**Keywords:** Government Hospital, Emergency Department, Saudi Arabia, Patient Satisfaction

### INTRODUCTION

Patients of Emergency and Accident Departments comprise a big proportion of people who refer to a hospital (Lau 2000). Emergency is serious happening or situation needing prompt action, where an individual's life is at stake in situations like car crash, heart attack, stroke, catastrophic weather or a community disaster. These circumstances need highly efficient and effective emergency medical services. Since there is danger to life or permanent physical, damage to the patient, delivery of prompt and effective emergency medical services becomes very important. Due to the urgency of the services and high expectation from patients the Emergency Department jobs gets difficult and need high level of preparation and inventory all

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the time. The government of Saudi Arabia is ambitious in improving and providing best quality of medical services at all levels to its inhabitants. The vision of ministry of health Saudi Arabia which monitors, and supervises the health industry in the country states, "by way of its objectives, policies and projects included in this strategy, seeks to accomplish a promising future vision, namely, delivering best quality integrated and comprehensive healthcare services." The vision 2020 of the MOH states, "carrying health conditions or health status of Saudi inhabitants to the best and highest possible level in terms of justice and equality in providing healthcare, and in terms of effectiveness and the possibility of incurring the financial burden of the treatment and healthcare. In doing so, the MOH takes as its

target meeting citizens' aspirations in this regard, by providing them with high-quality general and specialized health services, and covering all the population with these services (<http://www.moh.gov.sa/en/Ministry/About/Pages/Vision.aspx>, Accessed on 21.8.2015). Developing health care is also embodied and manifested in article 31 of the Basic law of Saudi Arabia, which says "the state shall protect public health and provide healthcare to every citizen" (<http://www.moh.gov.sa/en/Ministry/About/Pages/Strategy.aspx>, Accessed: 21.8.2015).

The above discussion highlights the commitment and determination of the government of Saudi Arabia in providing quality health care to all of its inhabitants. Motivated by the current situation of the health industry in Saudi Arabia, the researcher in this study intended to investigate the quality of services of one of the important sector in healthcare the Emergency Department services. Since the earlier researches show that the patient (consumer) satisfaction is important indicator of the quality of services by hospital, the main objective of this research is to find out the patient satisfaction from the services of Emergency Department in government hospitals in Saudi Arabia.

### Literature Review

Consumer satisfaction in general is considered an important indicator of the quality of product and service. The importance of both service quality and customer satisfaction to service providers has received considerable attention in the marketing literature in recent years (Ibanez et al., 2006; Sureshchander et al., 2002). Various studies said that higher levels of service quality lead to higher levels of customer satisfaction (Gotlieb et al., 1994; Kang and James, 2004; Oliver, 1997). Other empirical findings suggest service quality is one of the

antecedents of satisfaction (Woodside, Frey, & Daly, 1989). Thus, higher level of customer satisfaction indicates higher level of service quality. The relationship between patient satisfactions as an indicator of service quality is same in health industry as well (level patient satisfaction indicates level of service quality). Researches showed customer satisfaction is an important aspect of measurement of service quality in healthcare organizations as well (Bursch et al., 1993; Dansky & Miles, 1997; Mack et al., 1995; Rhee & Bird, 1996). Stiels et al. (2001), described healthcare as a complex sequence of transactions among patients and providers. Consideration of patient satisfaction is the main factor in the evaluation of quality of health organization, which is directly related to treatment (Pickin et al. 2004). Patient satisfaction is an important indicator of the quality of care provided by the emergency department as well (Hansagi et al. 1992; Yarnold et al., 1998). Given the urgency of treatment, the role of emergency department becomes very important. In Emergency Department of a hospital, it is always a matter of life and death for a patient where the fight between life and death is always a breath away, requiring a high degree of coordination and interrelations between human and materials elements (Jinn & Wen-Shan 2007). Therefore, the duty of Emergency Department of hospitals is to survive patients in this crucial period of time (Boudreaux et al. 2003). Several studies assessed the rate of Emergency patient's satisfaction and their relatives who referred to Emergency Department in Iran (Rezaee et al. 2002; Sarchami & Sheykhi 1999; Zendehelel & Baradarjalili 1998) and other countries such as USA (Boudreaux et al., 2003; Taylor & Bengner 2004), Australia (Hordacre et al., 2005), Canada (Hutchison et al. 2003), Spain (Miro et al., 2003), Britain (Pickin et.

al.2004; Richards et. al. 2002) and Pakistan (Qidwai et. al., 2005).The above brief review of literature clearly indicates the importance of Emergency Department in itself and satisfaction of patients from its services.

### Methodology

The research is empirical study and collected data from the inhabitants of Saudi Arabia including Saudi citizens and foreigners working the country. Data was collected through structured close-ended questionnaires. The questionnaire developed in English and translated into Arabic language, as the respondents were mainly Saudi citizens and from other gulf countries such as Egypt, Jordan etc. The patient's satisfaction level was measured on Five point Likert Scale where 5 equal to Highly Satisfied, 4 equal to Satisfied, 3 equal to Somewhat Satisfied, 2 equal to Dissatisfied and 1 equal to Highly Dissatisfied.

Through observation variables were identified to represent the services quality of Emergency Department in a hospital. The identified variables were namely; response to Emergency call, Availability of Ambulance, Readiness of treatment arrival, Availability of administrative staff, Availability of Doctors, Availability of Nurses, Availability of emergency medicines, refer to other hospital if treatment is not available, transfer facilities to other hospitals if needed and the last variable enquired about the overall satisfaction from the Emergency Department services.

Convenience sampling methodology was used to identify the respondents to administer the questionnaires. Before administering the questionnaire, the researcher orally confirmed whether the respondent or his family member had used the services of Emergency Department at any of the government hospitals in the country. The respondents were

employees working in various companies across the kingdom. The respondents were pursuing bachelor degree in various programs of College of Business Rabigh, King Abdulaziz University through part time and distance learning program. Researcher personally administered the questionnaires to the respondents during the counseling session conducted prior to the final exam as well as during the final exam. The results were presented in numbers, and percentages. Cronbach Alpha test was conducted to test the reliability of the data. Besides t-test measured the significance level

**Sample size:** The questionnaire was administered to 400 respondents however only 367 questionnaires were usable.

**Hypotheses:** In this study, the researcher proposes ten hypotheses as follows;

Null Hypothesis H0:  $\mu > 3$  Patients are satisfied with response to the emergency call

Alternate Hypothesis H1:  $\mu \leq 3$  Patients are not satisfied with response to the emergency call

Null Hypothesis H0:  $\mu > 3$  Patients are satisfied with availability of Ambulance

Alternate Hypothesis H1:  $\mu \leq 3$  Patients are not satisfied with availability of Ambulance

Null Hypothesis H0:  $\mu > 3$  Patients are satisfied with readiness of treatment on arrival

Alternate Hypothesis H1:  $\mu \leq 3$  Patients are not satisfied with readiness of treatment on arrival

Null Hypothesis H0:  $\mu > 3$  Patients are satisfied with availability of the administrative staff

Alternate Hypothesis H1:  $\mu \leq 3$  Patients are not satisfied with availability of the administrative staff

Null Hypothesis H0:  $\mu > 3$  Patients are satisfied with availability of the doctors

Alternate Hypothesis H1:  $\mu \leq 3$  Patients are not satisfied with availability of the doctors

Null Hypothesis H0:  $\mu > 3$  Patients are satisfied with availability of nurses

Alternate Hypothesis H1:  $\mu \leq 3$  Patients are not satisfied with availability of nurses

Null Hypothesis H0:  $\mu > 3$  Patients are satisfied with availability of the emergency medicines

Alternate Hypothesis H1:  $\mu \leq 3$  Patients are not satisfied with availability of the emergency medicines

Null Hypothesis H0:  $\mu > 3$  Patients are satisfied with the refer to other hospital if treatment is not available

Alternate Hypothesis H1:  $\mu \leq 3$  Patients are not satisfied with the refer to other hospital if treatment is not available

Null Hypothesis H0:  $\mu > 3$  Patients are satisfied with transfer facilities to other hospitals in need

Alternate Hypothesis H1:  $\mu \leq 3$  Patients are not satisfied with transfer facilities to other hospitals in need

Null Hypothesis H0:  $\mu > 3$  Patients are satisfied with the emergency services of the hospital

Alternate Hypothesis H1:  $\mu \leq 3$  Patients are not satisfied with the emergency services of the hospital

**Empirical Results**

**Reliability of data;** Pallant (2004) said that reliability scores more than .70 are acceptable. The Cronbach Alpha reliability value .909 in table 1 showed that the data were highly consistent and reliable thus the results drawn from the analysis tend to be reliable for interpretation and managerial implications.

**Table 1. Cronbach Alpha Reliability Test**

<b>Hospital Emergency Services</b>	<b>.909</b>
Response to emergency call	
Availability of Ambulance	
Readiness of treatment on arrival	
Availability of administrative staff	
Availability of doctors	
Availability of Nurses	
Availability of emergency medicines	
Refer to other hospitals if treatment is not available	
Transfer facilities to other hospitals in need	
Overall experience with the emergency services of the hospital	

**Patients’ satisfaction from hospital Emergency Department services**

The results of the patients’ satisfaction from the hospital emergency services are presented

in table 2 and table 3 followed by figure 1. Patients’ satisfaction from hospital emergency department services has been measured through nine items in the list. The nine parameters are mentioned in the methodology

section followed by the tenth variable about the overall satisfaction from the emergency department services.

The results in table 2 and table 3 showed that respondents who used the emergency department services of the government hospital only 105 (28.5%) were satisfied. For other variables the satisfaction was as follows, 109 (29.7%) were satisfied with availability of ambulance, 112 (30.5%) were satisfied with the readiness of treatment on arrival, 90 (24.5%) were satisfied with the availability of administrative staff, 125 (34%) were satisfied with the availability of doctors, 164 (44.9%) were satisfied with the availability of nurses, 115 (31.4%) were satisfied with the

availability of emergency medicines, 83 (22.6%) were satisfied with referring to other hospitals if services are not available, 95 (25.9%) were satisfied with the transfer facilities to other hospitals if needed. The last question for their overall experience from the emergency services only 84 (22.9%) respondents said that they were satisfied.

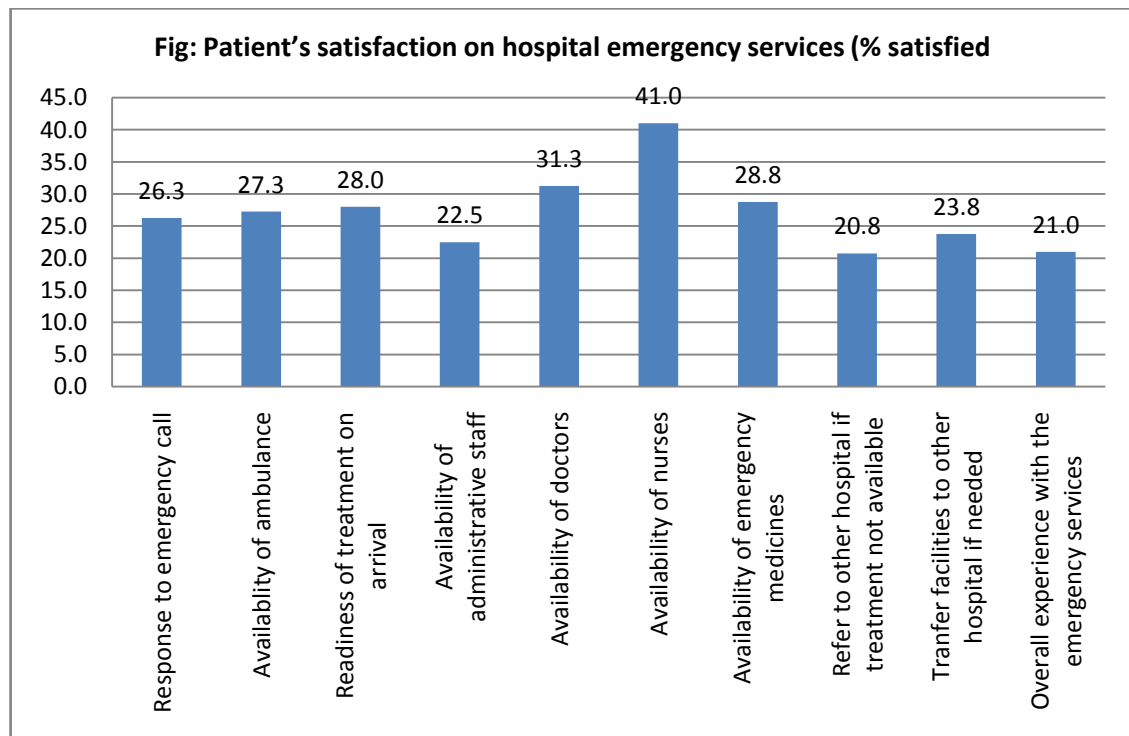
The results in table three and table four show that very less number of patients were satisfied with services they received in Emergency Department of government hospitals. The percentage of satisfied patients from the emergency department services is between 22.9% to 31.3%, except for the availability of nurses, which had 41% satisfied patients.

**Table 2: Patient's satisfaction from hospital emergency services**

Parameters	N	Number of patients reporting				
		Highly dissatisfied	Not satisfied	Somewhat Satisfied	Satisfied	Highly satisfied
Response to emergency call	368	112	68	83	59	46
Availability of ambulance	367	91	66	101	66	43
Readiness of treatment on arrival	367	85	76	94	72	40
Availability of administrative staff	367	112	75	90	50	40
Availability of doctors	367	75	67	100	85	40
Availability of nurses	365	64	59	78	98	66
Availability of emergency medicines	366	90	63	98	76	39
Refer to other hospital if treatment not available	366	127	58	98	51	32
Transfer facilities to other hospital if needed	366	92	70	109	68	27
Overall experience with the emergency services	366	92	66	124	58	26

**Table3: Patient's satisfaction from hospital emergency services**

Response to emergency call	26.3
Availability of ambulance	27.3
Readiness of treatment on arrival	28.0
Availability of administrative staff	22.5
Availability of doctors	31.3
Availability of nurses	41.0
Availability of emergency medicines	28.8
Refer to other hospital if treatment not available	20.8
Transfer facilities to other hospital if needed	23.8
Overall experience with the emergency services	21.0

**Figure 1****Patient's satisfaction across the In Patient and out patient**

The results in table 4 compares the satisfaction level between out patients and in patients who availed the services from the Emergency department of government hospitals. ANNOVA was used to compare the results. The results show that there were 141 Out Patients and approximately 222 In Patients indicating that majority of the patients who came for emergency services were admitted in the hospital. The mean values for nine from ten variables were less than 3 in both the categories of

patients, indicating that both types of patients were not satisfied. The mean value for availability of nurses variable in both categories were more than 3 indicating satisfaction of the patients from nurses. However, the results for all the ten variables were statistically not significant.

**Table 4: ANNOVA - Satisfaction on hospital emergency services across patient types**

Type of Treatment	Out Patient			In Patient			F	d	Sig.
	N	Mean	Std. Dev	N	Mean	Std. Dev			
Response to emergency call	141	2.71	1.417	222	2.56	1.373	1.013	1	.315
Availability of ambulance	141	2.82	1.305	222	2.70	1.339	.706	1	.401
Readiness of treatment on arrival	141	2.81	1.259	222	2.70	1.332	.567	1	.452
Availability of administrative staff	141	2.57	1.289	222	2.51	1.371	.206	1	.650
Availability of doctors	141	2.83	1.276	222	2.87	1.295	.101	1	.751
Availability of nurses	141	3.12	1.268	221	3.13	1.405	.002	1	.967
Availability of emergency medicines	141	2.83	1.282	222	2.70	1.332	.808	1	.369
Refer to other hospital if treatment not available	141	2.48	1.285	222	2.45	1.350	.065	1	.799
Transfer facilities to other hospital if needed	141	2.65	1.231	222	2.64	1.265	.006	1	.939
Overall experience with the emergency services	141	2.62	1.239	222	2.61	1.208	.008	1	.930

### Discussion

The main objective of the research was to find out the level of satisfaction of the patients from the Emergency Department in government hospitals in Saudi Arabia. As mentioned earlier, nine different variables were identified by the researcher to represent the various services expected from Emergency Department. The tenth variable enquired about the Overall experience with

the emergency services. One sample t-test in table 5 tests the hypothesis. Mean value three and above showed the satisfaction of the patients and mean value less than 3 showed the dissatisfaction of the patients. The results in table five showed that the mean values for nine variables in the list of emergency services are less than three and significant at 95% and 90% confidence levels, the results were statistically significant. The mean value for 'availability of nurses' was greater than

three indicating the satisfaction of the patients from this variable. The result for this variable was statistically significant at 0.05 level. Therefore, from the results the alternate hypothesis for nine variables were accepted indicating that the patient were not satisfied

with those services of Emergency Department in government hospitals. For the variable 'availability of nurses' Null hypotheses is accepted indicating that the patients were satisfied.

**Table 5: One sample t test -Patient's satisfaction on hospital emergency services**

Parameters	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Response to emergency call	368	2.62	1.386	-5.303**	367	.000
Availability of ambulance	367	2.74	1.325	-3.781**	366	.000
Readiness of treatment on arrival	367	2.74	1.306	-3.758**	366	.000
Availability of administrative staff	367	2.54	1.338	-6.593**	366	.000
Availability of doctors	367	2.86	1.285	-2.112*	366	.035
Availability of nurses	365	3.12	1.359	1.657	364	.098
Availability of emergency medicines	366	2.76	1.317	-3.532**	365	.000
Refer to other hospital if treatment not available	366	2.46	1.323	-7.783**	365	.000
Transfer facilities to other hospital if needed	366	2.64	1.246	-5.539**	365	.000
Overall experience with the emergency services	366	2.62	1.219	-6.003**	365	.000

\*\*significant at 0.01 level, \* significant at 0.05 level

### Conclusion

The study was undertaken with the main objective of finding the satisfaction level of the patients from service quality of Emergency Departments in government hospitals of Saudi Arabia. The results in table one through five strongly indicates low level of satisfaction among patients from services of Emergency Department. Given the vision 2020 of the Ministry of Health to provide health conditions to the best and highest possible level for the inhabitants of Saudi Arabia, the findings are strong indicator for improvement needed in the emergency departments' services.

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