Patient Satisfaction And Its Related Factors Within Emergency Care Departments: A Study Of Iranian Military Hospitals

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Abstract: Background: Today, researchers pay special attention to patient satisfaction with emergency care services, the first line of hospital healthcare services. However, the nature of emergency medicine (EM) has changed significantly in recent years, and related factors in patient satisfaction have changed over time. The aim of this study was assessment of patient satisfaction and its related factors with emergency care services in six Iranian military hospitals. **Materials and Methods:** In this cross-sectional study, the satisfaction levels of 360 patients of emergency care services in six military hospitals of Iran in 2007 were assessed. After discharge from the emergency ward, a checklist of basic information and a 12-item questionnaire about satisfaction levels was completed for each patient. A 5-level Likert scale was used for the responses. Scores from 20-100 were allocated to each response (completely dissatisfied to completely satisfied), respectively. **Results:** 3,559/4,220 responses (82.4 percent) were completely satisfied or satisfied. In respect to priority, "Observation of ethical issues," "giving information “and” behavior of reception personnel" had the highest scores. "Variety of medical specialists," "emergency ward facilities," and "speed in calling doctor" scored the lowest. The total satisfaction score reported by patients older than 35 year ($p=0.022$), insurance coverage ($p=0.002$) and with history of previous referring to that emergency ward ($p=0.017$) was significantly higher than others. Gender, marital status, and educational level had no statistical correlation with the total satisfaction score ($p>0.05$). **Conclusion:** The findings of this study revealed favorable satisfaction levels for patients receiving emergency care services at military hospitals. However, using a variety of expert physicians and more facilities and also improving the process of calling doctors into the emergency ward are aspects that need more attention from healthcare managers in emergency centers.

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1. Introduction

Respect for patients’ needs and wishes is critical to any healthcare system (Gani et al, 2007; Soufi et al, 2010; Nguyen et al,2002). The quality of health services has traditionally been based on professional practice standards. However, over the last decade, patient perceptions about healthcare have been predominantly accepted as an important indicator of healthcare quality and a critical component of performance improvement and clinical effectiveness (Woodring et al, 2004; Kikwilu et al, 2009). Since the 1990s, measuring patient satisfaction has come to be regarded as the method of choice for obtaining patient views about care and has been widely adopted as an indicator of quality of care (Soufi et al, 2010; Hjortdahl et al, 1992). Measuring healthcare quality and improving patient satisfaction have become increasingly prevalent, especially among healthcare providers and purchasers of healthcare as consumers become more knowledgeable about healthcare (Howard et al, 2007). Indeed, patient satisfaction is widely considered an integral part of quality of care (Bernard et al, 2007; Benson et al, 1987; Ball, 1996; Tamaki et al, 2005). Pascoe has defined it as a recipient’s reaction to salient aspects of his experience of a service. In his formulation, satisfaction consists of a cognitive evaluation and an emotional reaction to the structure, process, and outcome of healthcare services (Pascoe, 1983). So patient satisfaction is a quality indicator that can potentially provide valuable information about the care delivered by providers. This indicator is considered an important marker of quality by paramedics (Greenberg et al, 1997; Holt, 2006; Institution of Medicine of National Academy, 2008). Patient satisfaction is important outcome of healthcare services and can affect compliance with medical advice, service utilization, and the clinician-patient relationship (Hjortdahl et al, 1992; Howard et al, 2007; Pascoe, 1983). Most researchers agree that patient satisfaction is a multidimensional concept, but, no consensus exists regarding which dimensions of care should be evaluated to measure patient satisfaction (Acorn, 1999; Schulmeister et al, 2005).

Several approaches have been used to identify the factors contributing to healthcare satisfaction. A distinction is made between those based on expectations, those focusing on health service attributes, those emanating from economic theory, and those that are holistic in nature (Soufi et al, 2010; Moore, 1999; Ware, 1981).

Approaches based on health service attributes attempt to clarify the concept of satisfaction. They also focus on consumers' evaluations of health service attributes. These methods use reviews of the available literature or primary research to produce lists of critical features that affect healthcare satisfaction. These features are often incorporated into factor or principal-components analysis to validate definable dimensions of the care process. The resulting classifications may subsequently form the basis of the development of instruments to measure satisfaction (Eriksen, 1995; Greeneich et al, 1992; Bennan, 1995). In line with previous studies and the literature, demographics, socioeconomics, and patient health characteristics were explored(Laschinger et al, 2005; Sitzia et al, 1997).

Also emergency departments (EDs) provide emergency healthcare to all those who present with acute emergencies (Salazar et al, 2006; Ochoa et al, 2000). EDs are overcrowded with patients who often seem dissatisfied with emergency health services(Sinclair, 2007; Coughlan et al, 2007; McCarthy et al,2008). Objective information about patient satisfaction to ensure the quality of care delivered by emergency medical service systems is in demand by governmental agencies, insurance companies, and customers (Bernard et al, 2007; Moore, 1999). But the nature of emergency medicine has changed significantly in recent years with the advent of new treatment options and the availability of more medical technology [30, 31]. So related factors in patient satisfaction have changed over the time and standard quality indicators such as response time and outcome data may not reflect everything that patients consider important (Bernard et al, 2007; Greenberg et al, 1997). In this study, patient satisfaction and its related factors were examined through large data sets that were collected from emergency departments of Iranian military hospitals.

2. Material and Methods

In this cross-sectional study, subjects were randomly chosen from patients referred to emergency military hospitals located in six cities: Shiraz, Isfahan, Mashhad, Kerman, Kermanshah, and Tabriz in July and August 2008 . In total, 360 patients (60 patients from each emergency center) participated in this study. Inclusion criteria were: minimum age of 15 and admission to the ED for more than five hours. Exit conditions from the study were inability to answer questions (such as patients with decreased level of consciousness or patients with severe psychiatric disorders). After the ED stay was complete, subjects were interviewed by our colleagues. The interviewers completed the checklists (without name) that included information such as age, gender, marital status, education level, insurance type, history of previous admissions, and name of the city. This checklist was completed for all patients by interviewers.

The questionnaire determined satisfaction levels of emergency services for all patients. It let patients express their level of satisfaction with emergency care services through a series of 12 questions covering topics such as giving information, the reception process, speed in calling doctors, continuous presence of doctors and nurses at the patient's bedside, quick action by caring medical staff, diversity of medical specialties, reception personnel's performance and behavior, laboratory personnel's performance and behavior, financial personnel's performance and behavior, compliance with ethical issues by clinical staff, facilities of emergency ward, and emergency cleanliness.

The five-part Likert scale (completely satisfied, satisfied, not satisfied and not dissatisfied, dissatisfied, and completely dissatisfied) was the response vehicle for each item. Scores from 20-100 were assigned to each response (from completely dissatisfied to completely satisfied), respectively. Statistical analysis using SPSS 13 software was performed. A description of the qualitative variables and quantitative variables has been done by frequency tables and calculating of average (standard deviation), respectively. The independent samples test related to the level of patient satisfaction and two-way variables such as sex, age, marital status, insurance coverage, and history of referring. The ANOVA test was used for more than two variables such as educational level and the city. The significant level (p-value) was considered less than 0.05.

3. Results

3.1. Basic information

Of all patients, 228 (63 percent) were male and 256 (71 percent) were married. Regarding patient age, 202 people (56 percent) 35 years old or younger and 158 people (44 percent) were more 35 years old. For education, 147 people (41 percent) held lower educational diplomas, 122 people (34 percent) helped diplomas, and 91 people (25 percent) had higher than diplomas. In this study, 232 people (65 percent) have a history of previously referring people to the facility

and 39 people (11 percent) didn't have any insurance coverage as they entered the emergency centers.

3.2. Satisfaction with emergency different services

Of the 4,220 total responses, 1,320 responses (30.6 percent) were completely satisfied, 2,239 responses (51.8 percent) were satisfied, 585 responses (13.5 percent) were not satisfied and not dissatisfied, 137 responses (3.2 percent) were dissatisfied, and 39 cases (0.9 percent) were completely dissatisfied. Thus, from total of 4,220 patient responses, 3,559 responses (82.4 percent) were satisfied or completely satisfied with emergency care services received.

Table 1: Results of patient satisfaction quality and quantity with services provided in emergency centers for each service

Items	**Average (Standard Deviation)**	**Satisfaction levels**				
		Completely Satisfied	Satisfied	Not Satisfied and Not Dissatisfied	Dissatisfied	Completely Dissatisfied
Giving information	85/8± 13/9	145(40%)	184(51%)	22(6%)	9(3%)	0
Patients' reception process	82± 7/14	93(26%)	228(63%)	24(7%)	11(3%)	4(1%)
Speed in calling doctor	79/6 ± 16/2	93(26%)	186(52%)	167(18%)	10(3%)	4(1%)
Continuous presence of doctors and nurses at patient's bedside	80/5 ± 16/4	103(29%)	183(51%)	57(16%)	15(4%)	2(1%)
Acting quickly and caring medical staff	79/8± 16/4	98(27%)	178(49%)	71(20%)	9(3%)	4(1%)
Diversity of medical specialties	78/7± 18/4	95(26%)	187(52%)	46(13%)	25(7%)	7(2%)
Reception personnel's performance and behavior	82/4± 14/9	110(31%)	193(54%)	48(13%)	7(2%)	2(1%)
Laboratory personnel's performance and behavior	79/8± 0/17	100(28%)	180(50%)	62(17%)	14(4%)	4(1%)
Finance personnel's performance and behavior	82/1± 15/2	108(30%)	188(52%)	47(13%)	13(4%)	4(1%)
Compliance with Ethical issues	87/3± 15/2	176(49%)	153(43%)	22(6%)	4(1%)	4(1%)
Emergency facilities	79/5±15/7	93(26%)	178(49%)	78(22%)	10(3%)	0
Cleanliness	82/1± 15/2	106(29%)	201(56%)	41(11%)	9(3%)	3(1%)
Total satisfaction	81/6± 10/6	1320(30/6%)	2239(51/8%)	585(13/5%)	137(3/2%)	39(0/9%)

Thus, from total of 4,220 patient responses, 3,559 responses (82.4 percent) were satisfied or completely satisfied with emergency care services received. This number increases to 95.9 percent when blank answers are included. Based on mean (standard deviation) of satisfaction scores related to various sectors of service, "Observation of ethical issues," "Style of giving information," and reception personnel's performance and behavior in emergency centers had the highest scores with 87.3±15.2, 85.8±13.9, and 82.4±14.9, respectively. "Enjoy the diversity of medical specialties," "Emergency facilities," and acting quickly to inform the physician scored the lowest scores with 78.7±18.4, 79.5±15.7, and 79.6±16.2 respectively. Frequency and average (standard deviation) of the total satisfaction and satisfaction to each of the separate parts of the emergency services is shown separately in Table 1.

3.3. Factors associated with overall satisfaction score of patients with emergency services

The total satisfaction score reported by patients older than 35 years was significantly higher than those 35 years or less (p=0.022). The scores

reported from patients without insurance coverage were significantly higher than those from patients covered by insurance (p=0/002). Also total satisfaction scores reported by patients with a history of previous referrals to the emergency centers under study was significantly higher than others (p=0.017). The total satisfaction reported by men vs. women and single people vs. married showed no significant difference. Likewise, the total satisfaction reported from patients with less, equal, and higher education wasn't statistically significant (p>0.05) (Table 2).

Table 2: Factors associated with patients' satisfaction scores

	Sig. level	Subgroups	Total satisfaction
gender	9590/*	Men	81/7 ± 10/9
		Women	81/8 ± 9/2
Age (year)	0220/*	≥35	80/6 ± 10/5
		<35	83/2 ± 10/4
Marital status	3120/*	Married	82 ± 10/5
		Single	80/7± 10/6
Education	6190/**	Less than diplomas	82/3 ± 10/2
		diplomas	81/2 ± 10/1
		Higher than diplomas	81/1± 11/3
Insurance coverage	0020*	Yes	82/2 ± 10/2
		No	76/5 ± 10/6
History of previous admission	017/*0	Yes	82/3 ± 10/4
		No	79/4 ± 10/9
Location	001/0< **	Isfahan	82/9 ± 13/2
		kerman	80/8 ± 4/3
		keremanshah	79/8 ± 13/9
		Mashhad	79/1 ± 7/5
		Shiraz	87 ± 8/6
		Tabriz	79/9 ± 0/12

3.4. Comparing patient satisfaction with emergency services in various cities

The total satisfaction score reported by patients in different cities varied by a statistically significant amount (p<0.001). Closer examination of the results through post hoc tests reveals that patient satisfaction scores in Shiraz City was significantly higher than cities of Kerman (p=0.016), Mashhad (p=0.001), Kermanshah (0.003), and Tabriz (0.003). The patient satisfaction scores with emergency services weren't statistically significant in other cities (p>0.05) (Table2).

4. Discussions

This study showed that patient satisfaction with emergency services in Iranian military hospitals was desirable in more than 82 percent of all instances. Results of previous studies of this topic were completely different. Satisfaction with emergency services in previous studies found extensive variability - from 44-98 percent. Patient satisfaction with emergency services in some training hospitals that depend on Tehran University of Medical Sciences (44 percent) (Omidvari et al, 2008)., Tehran Imam Khomeini Hospital (62 percent)(Jalili et al, 2007)., Lorestan (64 percent)(Rezaei et al, 2002)., Ardebil (78 percent)(Entezariasl et al, 2003)., and Army (81 percent)(Khoshjan et al, 2005). were, in some cases, far lower than what this study found. On the other hand, patient satisfaction with emergency services in Tabriz training hospitals (88 percent) (Behshid et al, 2005)., and Gazvin (98 percent) was better what the present study found (Sarchami, 2001). Nevertheless, the dramatic differences in the findings from other studies call for closer examination. It's clear that these differences may be related to the emergency services provided in each ED under study. We must also consider factors such as differences related to the studied population, the frequency of emergency centers under study, and most important of all, different ways of measuring satisfaction (Trout, 2000).

As stated before, one application of patient satisfaction is to enable health managers to identify strengths and weaknesses and improve service quality(Sun et al, 200). In this study, the lack of diversity of expertise, facilities, and delay in calling doctors into emergency centers led to the highest dissatisfaction levels among emergency different services. A review of findings from previous studies revealed that, despite a variety of assessments, in the internal studies similar to this study, the largest cause of dissatisfaction stemmed from a lack of emergency facilities [Omidvari et al, 2008; Jalili et al, 2007; Rezaei et al, 2002; Sarchami, 2001).Therefore, healthcare managers and executives should pay added attention to this issue to noticeably increase patient satisfaction and ultimately enhance the ED. Also, in line with these results, patient dissatisfaction with personnel Acting quickly and wait times to receive emergency services were another matter that in all studies were among the main reasons for dissatisfaction (Omidvari et al, 2008; Jalili et al, 2007; Sun et al , 2001,2002). Patient wait times may occur in different stages - such as triage, encounter with a doctor, Para clinical services, the interpretation of

results, and finally a medical consultation and admission/discharge (Booth et al 1992). This is an important matter because lengthy waiting times lead as many as 30-60 percent of patients to leave an emergency before a medical examination is completed. On the other hand, faster wait times were associated with greater satisfaction - up to 75 percent in other studies (Krishel, 1993). Nevertheless, some researchers believe that patients' perceptions of wait times play a critical role in patient satisfaction than just the waiting time itself. (Sun et al , 2001; Hall, 1996). For instance a lengthy wait time can be mitigated by appropriate personnel behavior, communication/explanation, and estimation of wait times for patients (Hall, 1996). Therefore, emergency care managers should devise and implement solutions to reduce patient dissatisfaction with wait times.

This study also examined patient background factors and found that there were no meaningful statistical differences between men and women, singles and married, and different levels of education. However, older patients expressed more satisfaction with care services. Also, patients covered by insurance or who have a history of previous visits were more satisfied with services compared to others. In several earlier studies, the impact of patient demographics on satisfaction levels has varied(Taylor et al, 2004).Some studies reported that gender [Omidvari et al, 2008; Quintana et al, 2006). age (Omidvari et al, 2008; Hargraves, 2001), and level of education (Hedges et al, 2002) impacted patient satisfaction. Other studies reported that these factors were irrelevant to satisfaction (Jalili et al, 2007; Quintana et al, 2006). On closer examination, findings of Omidvarim et al.(Omidvari et al, 2008;)., the study within our country found that that men and older patients with lower education levels have more satisfaction. Marital status was irrelevant to satisfaction. However, Sarchami and Sheikh's study (Trout et al,2000) ("Patients' satisfaction level with quality of emergency services in training hospitals which depended on Qazvin University of Medical Sciences") found that women, younger patients, patients with history of previous referrals, and patients lacking insurance expressed greater satisfaction than other groups. These results showed noticeable differences - even the impact of background factors on patient satisfaction level was contradictory.

As mentioned, several causes could explain the differences among the various studies. The first factor is the differences among populations under study. Generally, the entry and exit conditions from the study had noticeable differences and common selection and measurement criteria were not used (Quintana et al, 2006). There are different ways to assess satisfaction in different studies, which may have led to the different findings. For example, the study of qualitative and quantitative satisfaction can lead to different findings regarding the impact of background factors. Hence, different methodologies may be necessary when studying patient satisfaction with healthcare.

The use of six different locations for this study of patient satisfaction with emergency care was a strength of this study. However, the use of more vague questions and the lack of variables such as disease type, severity, and clinical outcome were deficiencies of this study. We suggest that a confirming study must seek this additional information from a more comprehensive questionnaire.

The findings of this study revealed that patients' satisfaction level with emergency care services in military hospitals is desirable. Nonetheless, it seems to require skilled manpower and facilities and also reformed processes for referring physicians to emergencies. Managers, policy makers, and planners should pay special attention to these aspects of emergency care services

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