PATIENTS' SATISFACTION TOWARD SERVICES AT EMERGENCY DEPARTMENT IN HOSPITAL UNIVERSITI SAINS MALAYSIA, KELANTAN

by

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In the Name of Allah the Most Gracious and Merciful

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LIST OF ABBREVIATIONS

CECSS	Consumer Emergency Care Satisfaction Scale
CI	Confident Level
ED	Emergency Department
HUKM	Hospital Universiti Kebangsaan Malaysia
HUSM	Hospital Universiti Sains Malaysia
IMCHB	Interaction Model of Client Health Belief
MOH	Ministry of Health, Malaysia
SPSS	Statistical Package for Social Sciences
VSQ	Visit-Specific Satisfaction Questionnaire

PATIENT'S SATISFACTION TOWARD SERVICES AT EMERGENCY DEPARTMENT IN HOSPITAL UNIVERSITI SAINS MALAYSIA

ABSTRACT

Introduction: Emergency Departments is crucial and play an important role for public health. A cross sectional study was conducted to identify patient's satisfaction toward services at Emergency Department (ED) in Hospital USM, Kelantan. The objective of this study was to determine association between the score of satisfaction and socio-demographic, patient's age, gender, level of education, and waiting time.

Method: A self-administered questionnaire was used to collect the data using questionnaires derived from the Visit-Specific Satisfaction Questionnaires included 14 questions based on a Likert scale. Data collection was done from December 2012 until March 2013. The subjects were selected using a non-probability sampling. Descriptive statistics were used throughout data analysis in a number of ways using SPSS version 20.

Results: Fifty subjects were involved in this study. Majority of the subjects, 44 (88%) have high satisfaction with the services from ED Hospital USM and the rest 6 (12%) have moderate satisfaction. At the 5% significant level, the Ho is rejected if $p<0.05$. Using Spearman correlation test, there is a poor correlation ($r= 0.183$) comparison of mean between score of satisfaction and age. The finding showed that there is no significant association between score of satisfaction and age ($p=0.203$). For gender, using Mann Whitney test there is no significant association between score of satisfaction and gender ($p=0.466$). For level of education, using Kruskall Wallis test, there is no significant association between score of satisfaction and level of education ($p= 0.287$).

The relationship between waiting time and score of satisfaction was investigated using Kruskall Wallis test. The result shows that p value is 0.001 and z statistics is 18.325. So, there is a significant association between the score of satisfaction and waiting time.

Conclusion: The study findings indicated that majority patient have good satisfactions with services at ED Hospital USM. However, efforts should focus on shortening waiting time. There still have room for improvement to increase patient's satisfaction in the future.

Keywords: Patients Satisfaction, Emergency Department, Waiting Time

KEPUASAN PESAKIT TERHADAP PERKHIDMATAN DI JABATAN KECEMASAN HOSPITAL UNIVERSITI SAINS MALAYSIA, KELANTAN.

ABSTRAK

Pengenalan: Jabatan Kecemasan adalah suatu keperluan dan memainkan peranan yang sangat penting terhadap kesihatan masyarakat. Satu kajian silang dijalankan bagi mengenalpasti kepuasan pesakit terhadap perkhidmatan di Jabatan Kecemasan Hospital USM, Kelantan. Objektif kajian ini adalah bagi menentukan hubungan antara skor kepuasan pesakit dengan sosio-demografi, iaitu umur, jantina dan tahap pendidikan pesakit, serta hubungan dengan masa menunggu.

Kaedah: Borang soal selidik telah digunakan untuk mengumpulkan data menggunakan soalan yang diperolehi daripada Soalan *Visit-Specific Satisfaction (VSQ)* iaitu 14 soalan berdasarkan skala Likert. Pengumpulan data telah dilakukan dari bulan Disember 2012 hingga Mac 2013. Subjek kajian telah dipilih menggunakan persampelan *non-probability*. Statistik deskriptif digunakan bagi menganalisis data menggunakan SPSS versi 20.

Keputusan: Lima puluh subjek kajian telah terlibat dalam kajian ini. Majoriti daripada subjek 44 (88%) sangat berpuas hati dengan perkhidmatan ED Hospital USM dan seramai 6 (12%) sederhana berpuas hati. Pada 5% tahap signifikan, H_o ditolak jika $p< 0.05$. Menggunakan ujian *Spearman correlation*, terdapat hubungan yang lemah ($r = 0.183$) bagi perbandingan antara mean skor kepuasan dan umur. Keputusan menunjukkan bahawa tiada hubungan signifikan antara skor kepuasan dengan umur pesakit ($p=0.203$). Bagi jantina, menggunakan ujian *Mann Whitney*, keputusan menunjukkan tiada hubungan signifikan antara kepuasan pesakit dengan jantina

(p=0.466). Bagi hubungan dengan tahap pendidikan, ujian Kruskall Wallis menunjukkan tiada hubungan signifikan antara skor kepuasan pesakit dengan tahap pendidikan (p=0.287). Hubungan antara masa menunggu dengan skor kepuasan diuji menggunakan ujian Kruskall Wallis. Keputusan menunjukkan bahawa p=0.001 dan z=18.325. Jadi ia menunjukkan bahawa terdapat hubungan signifikan antara skor kepuasan pesakit dengan masa menunggu.

Kesimpulan: Kajian menunjukkan bahawa majoriti pesakit berpuas hati dengan baik terhadap perkhidmatan di Jabatan Kecemasan Hospital USM. Walaubagaimanapun, banyak lagi usaha-usaha perlu dilakukan bagi mengurangkan masa menunggu. Terdapat masih banyak ruang untuk penambahbaikan bagi meningkatkan kepuasan pesakit di masa depan.

Kata Kunci: Kepuasan Pesakit, Jabatan Kecemasan, Masa Menunggu

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Emergency Departments (ED) is crucial and plays an important role for public health. ED provides broad arrays of services to patients which is caring for acutely ill or injured patients and ensure that anyone in population can get basic health care services (Trzeciak & Rivers, 2003). A lot of people come to ED everyday to get services for emergency cases and for less urgent condition causes crowding of patient at ED. That effects the services and decrease patient satisfaction (Muntlin *et al.*, 2006).

Satisfaction will influence the patient's decision at which hospital they would prefer to seek treatment. Patient with emergency do not have choice to select ED but different with non-emergency patient, majority of them will choose satisfied ED for the treatment. (Soremekun *et al.*, 2011).

Patient satisfaction is increasingly become important. Health care providers must fulfill patient's expectations and encourage the evaluation of patient satisfaction. In health care setting, patients' satisfaction will remain an important quality outcomes measure especially at emergency care in a hospital (Ismail *et al.*, 2008). Satisfaction comprises both cognitive and emotional facets and relates to previous experiences, expectations and social networks. It also is an attitude, a person's general orientation towards a total experience of health care. (Keegan *et al*, 2002). Evaluation of patient satisfaction is important because it might be an important reference indicator for future insurance assessments particularly for hospital management.

According to Chen *et al.* (2003), factors that influence patient satisfaction were categorized into two groups, controllable factors and uncontrollable factors. Controllable factors were defined as factors which related with service providers at ED while uncontrollable factors were defined as factors which came from patients or their families. Controllable factors can be changed and improved by the hospital management in the ED such as communication skills, attitude of staff, ability of staff, ED processes and environment. Different with uncontrollable factor, it cannot be changed such as patients' gender, age, background or severity of illness because were affected by individual patients.

Previous studies suggest that, to improve patient's satisfaction, the healthcare services also must look at three most frequently identified service factors which are interpersonal skills and attitudes of staff must well developed, increase the information or explanation provided and reduce the perceived waiting time. These three things are key interventions to improve patient satisfactions (Taylor & Benger, 2004).

According to Ismail *et al.* (2008), patient will return for follow up treatment if they satisfied with the services and quality of care. The study done at Emergency Department HUKM indicated that 52% of the patient visit were referral and followed up cases.

People also like to tell to others when they like something, they will recommend to the others when they satisfied with the services and treatment provided at any Emergency Department. Public view toward hospital and emergency care in general also increase and has significant impact (Taylor & Benger, 2004).

Conversely, the reputation of the Emergency Department and hospital will decrease if patient dissatisfied with the services provided. They are likely will not return to the same ED if the need emergency care at the future. Eventually, this will lead to financial insolvency in an ED as well as a hospital (Chen *et al.*, 2003).

According to Mastandrea *et al.* (2007), the significance of the income is either gained or lost per day can make the difference of $3.65 million in annual gross for one patient's admission.

There are rooms for improvement to increase patient satisfactions. By performing some study such as designing questionnaire and survey, administrator or health care provider can determine the weakness and problems in ED services from patient's feedback. Intervention and implementation from feedback will improve the quality of health as well as patient satisfaction (Chen *et al.*, 2003).

1.2 Problem Statement

In order to stay competitive in the healthcare market, healthcare providers must interested in maintaining high levels of patient satisfaction. Patient satisfaction is an important indicator of quality of care. According to MOH (2012), total number of admission to MOH hospitals are 2,139,392 cases and outpatient attendance are 18,328,343 cases in 2011. However, for non-MOH hospital total numbers of admission and outpatient attendances for 2011 are 134,118 and 1,909,163 cases respectively. According to Emergency Department (ED) HUSM (2011), total numbers of patient attendances to ED HUSM in 2011 was 52,519 patients.

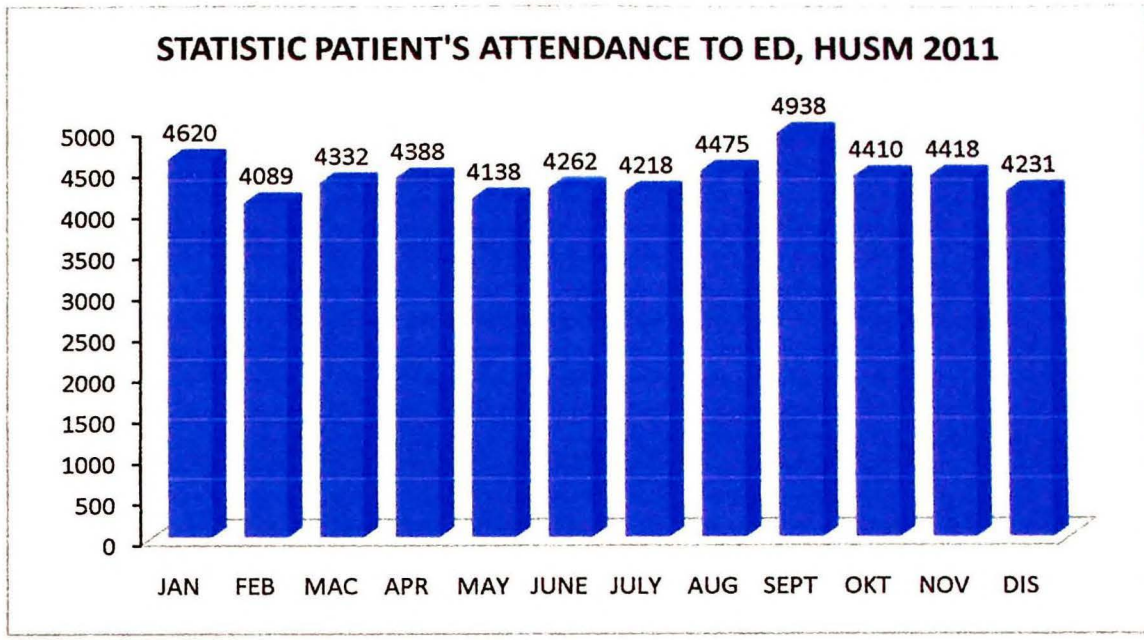

Figure 1.1: Statistics of Patient Attendance to ED, HUSM 2011 (Source: ED HUSM, 2012)

According to ED HUSM (2012), all patients are divided into 3-level triage category system which is Green, Yellow and Red Zone. Emergency cases are triaged as Red Zone. Intervention will be provided in Red Zone less than 5 minutes. At triage Yellow Zone, treatments will be rendered no later than 30 minutes. Non-urgent cases are placed at triage Green Zone and patients will be seen by doctor within 120 minutes.

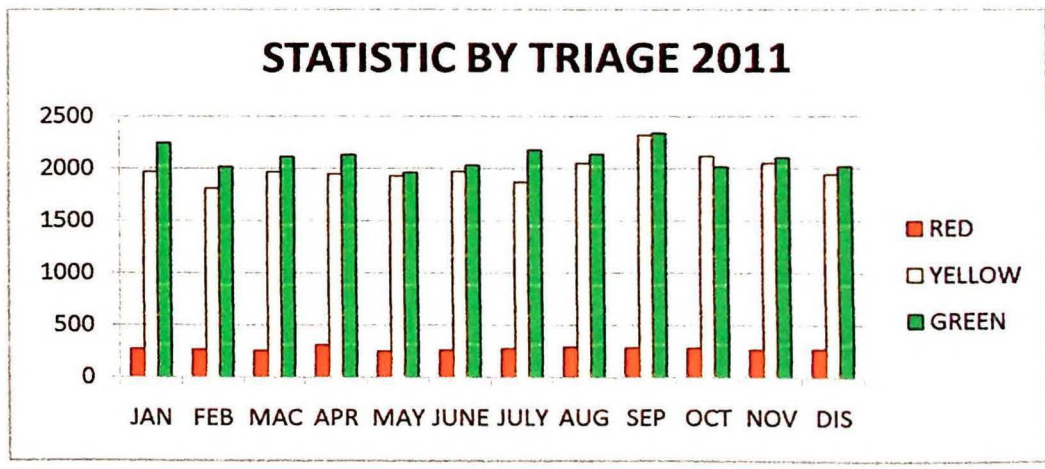

Figure 1.2: Statistics of Patient by Triage, HUSM 2011 (Source: ED HUSM, 2012)

	JAN	FEB	MAC	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DIS
RED	270	267	256	309	250	261	276	287	283	279	267	271
YELLOW	1964	1807	1964	1946	1927	1970	1866	2051	2319	2117	2048	1942
GREEN	2245	2015	2112	2133	1961	2031	2176	2137	2336	2014	2103	2018
TOTAL	4620	4089	4332	4388	4138	4262	4218	4475	4938	4410	4418	4321

Table 1.1: Statistics of Patient Attendance by Triage to ED HUSM for 2011 (Source: ED HUSM, 2012)

Report from ED HUSM shows that from January to August 2012, overall patient in Red Zone 100% have seen in less than 5 minutes, different with patient at Yellow Zone and Green Zone where some of them seen by the doctor after 30 minutes and 120 minutes respectively. From the report, on January there are 26% of patient have seen after 30 minutes, 26% in February, 22% in March, 20% in April, 21% in May, 10% in Jun, 14% in July and 22% in August 2011. At Green Zone also happen the same problem where the patient have seen by the doctor after 120 minutes which is 3% in January, 2% in February, 2% in March, 2% in April and 2% in May, and 3% in August 2011. (ED HUSM, 2012)

Hospital USM is one of the non-MOH hospitals, a semi government hospital which received different support especially in term of budget compare to MOH hospital. Therefore, patient satisfactions is important to make sure patient keep continue get services from HUSM. According to Yancy *et al.* (2001), there was one study that found that patients of physicians who received low patient satisfaction ratings were more likely to seek another provider within 6 months.

The significance of one patient admission that is either gained or lost per day can make the difference of $3.65 million in annual gross revenue according to Karpiel. (Mastandrea *et al.*, 2007).

At the ED, waiting cannot always be avoided, so shortening waiting times and explaining to patients the circumstances regarding the waiting interval is very important. According to Chen *et al.* (2003), the second-most frequent factor which was suggested to affect patient satisfaction in the ED was patient processing of ED. The factor which correlated most strongly with patient satisfactions was waiting time. Increasing the waiting intervals may decrease patient satisfaction.

High satisfaction implies that patients are more willing to return to the ED if they need emergency care again. Conversely, dissatisfied patients are not as likely to return to the same ED for future care. A bad impression may decrease the reputation and, eventually, lead to financial insolvency in an ED as well as a hospital. patient satisfaction is important and should be considered in the overall evaluation of quality of care (Chen *et al.*, 2003).

EDs are encountering patient loads that often exceed their capacities, presumably leading to increased waiting times and decreased patient satisfaction. Both physicians and hospital administrators have become increasingly concerned with meeting patient expectations of expeditious, quality care under these demanding conditions (Cassidy-Smith *et al.*, 2007).

Theoretical framework of Cox's Interaction Model of Client Health Behavior (IMCHB) will be used in this study. In order to determine the most optimal way for the health provider to interact with the client to attain positive health outcomes, IMCHB offers a framework for assessing the unique combination of dynamic personal and background characteristics of a client. In this study, the focus is on the health outcome of satisfaction with care.

1.3 Research Objectives

1.3.1 General Objectives

The general objective is to identify patients' satisfaction toward the services at Emergency Department in Hospital Universiti Sains Malaysia, Kelantan.

1.3.2 Specific Objectives

1. To identify the score of satisfaction of patients toward the services at Emergency Department in Hospital Universiti Sains Malaysia, Kelantan.
2. To identify the association between the score of satisfaction and selected socio-demographic (age, gender and level of education).
3. To identify the association between the score of satisfaction and waiting time.

1.4 Research Questions

1. What is the score of satisfaction of patients toward the services at Emergency Department in Hospital Universiti Sains Malaysia, Kelantan?
2. Is there any association between the score of satisfaction and selected socio-demographic (age, gender and level of education)?
3. Is there any association between the score of satisfaction and waiting time?

1.5 Hypothesis

1.5.1 H_O : There is no significant association between the score of satisfaction and selected socio-demographic (age, gender and level of education).

H_A : There is significant association between the score of satisfaction and selected socio-demographic (age, gender and level of education).

1.5.2 H_O : There is no significant association between the score of satisfaction and waiting time.

H_A : There is significant association between the score of satisfaction and waiting time.

At the 5% significant level, the H_O is rejected if $p < \alpha$ (0.05).

1.6 Definition of Term (Conceptual/Operational)

1.6.1 Patients' satisfaction toward services at ED Hospital USM

Patient satisfaction is defined as a quality outcome of care that underpins a patient's health-care experience (Jennings *et al.*, 2009). It also is defined as the degree to which nursing care meets patients' expectations in terms of art of care, technical quality, physical environment, availability and continuity of care, and the efficacy/outcomes of care (Mrayyan, 2006). ED provides services to patients which is caring for acutely ill or injured patients and ensure that anyone in population can get basic health care services (Trzeciak & Rivers, 2003). In this study, services are included waiting time, nursing care and treatment by physician at ED HUSM. Patients' satisfactions are measured using 5 point Likert Scale Visit-Spesific Satisfaction Questionnaire (VSQ).

1.6.2 Triage Classification

Triage is the classification of treatment plans varies according to the acuteness and problems presented by the patients. At ED HUSM all patients are divided into 3-level triage category system which is Green, Yellow and Red Zone. Emergency cases are triaged as Red Zone. Urgent cases are triaged into Yellow Zone. Non-urgent cases such as minor conditions or old injuries, awaiting diagnostic tests and cases to be reviewed are placed into Green Zone. In this study, only patient who triaged into Green and Yellow Zone will be participated and included as subject.

1.6.3 Waiting Time

Wait time is a key component of patient satisfaction, and significant efforts have been made to reduce ED wait times and increase overall ED efficiency. Intervention will be provided in Red Zone less than 5 minutes. At Yellow Zone, treatments will be rendered not later than 30 minutes. Non-urgent cases are placed at triage Green Zone and patients will be seen by doctor within 120 minutes. In this study, waiting time is calculated based on time seen by physician minus time register at triage. Time is measured in minutes.

1.7 Significance of The Study

The findings from this study were identifying patient's satisfaction toward the services from ED Hospital USM. The findings were useful in clinical practice, education, research and management. The findings were able to assist health providers in defining their roles and ultimately to improve the quality of care delivered to emergency patients (Ismail *et al.*, 2008).

This study also was improved nursing care by nurses and the efficiency and the continuity of care to have high levels of patients' satisfaction. As a long-term investment, hospitals have to promote themselves as hospitals that support patients' satisfaction and quality of nursing care to attract patients. In this regard, top management commitment is an essential milestone in job and patients' satisfaction as well as quality of nursing care.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Emergency departments (EDs) provide a broad array of services to patients. These services range from care of emergent or urgent medical conditions to providing safety net care for vulnerable populations. Although certain patients do not have the ability to choose where they receive emergency care secondary to their acuity or financial and geographic constraints, the majority of patients select the place where to seek emergency treatment. In the ED, patients arrive in need of more or less urgent attention, causing large variations in patient flow (Soremekun *et al.*, 2011).

Patients' satisfaction remains as an important quality outcome measure of emergency care in any hospital. The health care provider in the ED is responsible for meeting the various needs of these patients. Treatment plans varies according to the acuteness and problems presented by the patients. Adequate medical knowledge is required to identify the correct diagnosis and to prescribe appropriate medical intervention. A hospital ED is recognized as the front door where a significant number of inpatient admission take place. In ED, the health provider plays an important role as a gatekeeper toward delivery of care and patient satisfaction (Raper et al. 1999).

The relevance of patient satisfaction to Emergency Medicine is increasingly important as emergency department (ED) overcrowding continues to rise. EDs are encountering patient loads that often exceed their capacities, presumably leading to increased waiting times and decreased patient satisfaction. Both physicians and hospital

administrators have become increasingly concerned with meeting patient expectations of expeditious, quality care under these demanding conditions (Cassidy-Smith *et al.*, 2007).

Pregnancy, respiratory problem and injury are the major medical problems in Malaysia and contribute to a high incidence of fatalities and hospital admission. Admission to government hospitals are 2,139,392 cases and outpatient attendances are 18,328,343 cases in 2011. The total numbers of admission and outpatient attendances for 2011 in MOH hospitals in Malaysia are shown in Figure 2.1 (MOH, 2012).

Attendances, 2011

Government

- Ministry of Health

Admissions	
Hospitals	2,139,392
Special Medical Institutions	7,570
Outpatient Attendances	
Hospitals	18,328,343
Special Medical Institutions	117,960
Public Health Facilities	28,656,444
Dental Health Attendances	
Dental Clinics	10,318,298
Maternal & Child Health Attendances	
Ante-natal Attendances	5,433,463
Post-natal Attendances	556,346
Child Attendances	7,359,129

- Non Ministry of Health

Admissions	134,118
Outpatient Attendances	1,909,162

Figure 2.1: Admissions and Outpatient Attendances (Source: MOH 2012)

In all service industries, customer satisfaction is a key administrative metric, as it ensures return patronage and profitability. Customer satisfaction is even more important in continuous service industries (e.g., utilities, telecommunications) and professional service industries (e.g., financial service, consulting, accounting, and legal firms), where it significantly impacts the variance in duration of relationships. Patients who visit an ED and are satisfied with the care received are more likely to return to the ED and other departments within the hospital, as well as recommend the hospital to others. In health care, patient satisfaction also impacts other key areas such as patient compliance and medico-legal risk. As a result, ED administrators are increasing their attention to this metric and incorporating patient satisfaction into their physician performance assessments and compensation plans. (Soremekun *et al.*, 2011)

Patient satisfaction is an indicator of the quality of care provided by the emergency department (ED). High satisfaction implies that patients are more willing to return to the ED if they need emergency care again. Conversely, dissatisfied patients are not as likely to return to the same ED for future care. A bad impression may decrease the reputation and, eventually, lead to financial insolvency in an ED as well as a hospital. patient satisfaction is important and should be considered in the overall evaluation of quality of care (Chen *et al.*, 2003).

Many of the areas for quality improvement identified in this study were related to the ED environment. Studies of patients' perceptions of and attitudes to their hospital care have become more common and patients tend to report overall satisfaction. These things are not related to patients' medical problems but are important to make visits safe and comfortable for them. Even small things can influence the whole impression of the

visit to the ED. Patients are not always satisfied with the care received in EDs. For example, waiting times are often perceived as unreasonably long and treatment and nursing care, as well as information received from nurses and physicians, are often unsatisfactory.(Muntlin *et al.*, 2006)

Increasing patient satisfaction in an emergency department can increase the utilization of that emergency department significantly. It has been shown that if a patient is satisfied in an emergency department they will be more likely to recommend that hospital to others. The significance of one patient admission that is either gained or lost per day can make the difference of $3.65 million in annual gross revenue according to Karpiel. (Mastandrea *et al.*, 2007)

Wagner & Bear (2009) also suggest that patient satisfaction is an important indicator of quality of care, and healthcare facilities are interested in maintaining high levels of satisfaction in order to stay competitive in the healthcare market.

2.2 Review of Literature

2.2.1 Patient Satisfaction

According to Han *et al.* (2003), definitions of patient satisfaction differ slightly from each other, there is general consensus among researchers that patient expectation, demographic characteristic and nature of illness are important factors, which contribute to the total level of patient satisfaction.

Patient satisfaction in an emergency department is sometimes overlooked due to the high patient volume and high stress situations that the hospital staff frequently encounters. Unsatisfied patients tend to leave the emergency department before being

seen by a physician. This premature departure results in decreased patient care and decreased revenue for the hospital. Satisfied patients were also found to be easier to treat, more likely to be compliant with giving a detailed history and less likely to pursue lawsuits (Mastandrea *et al.*, 2007).

2.2.2 Factor That Influence Patient Satisfaction

According to Chen *et al.* (2003), factors affecting patient satisfaction in the ED were categorized into 2 groups, controllable factors and uncontrollable factors. Controllable factors were defined as those which came from ED. These factors can be changed and improved in the ED by management, such as communication skills or ED process. While uncontrollable those were defined as factors which came from patients or their families. These related factors were affected by individual patients and so cannot be changed by ED, such as patients' gender, age, background or severity of illness.

Additionally, evidence shows a strong correlation between physician interpersonal skills and patient satisfaction. Therefore, incremental investments in improving physician communication and interpersonal skills can increase patient understanding of their care and overall satisfaction without changing the actual objective aspects of the care received. Patient satisfaction also affected by patient non-clinical perceptions of their care environment and dependent upon staff effectively managing patient expectations. A key predictor of level of patients' satisfaction with their ED care is wait times. Other predictors include staff bedside manner, clear communication, clear discharge instructions, availability of diagnostic tests, and technical competency (Soremekun *et al.*, 2011).

According to Taylor & Benger (2004), the three most frequently identified service factors were interpersonal skills and attitudes, provision of information and explanation, and perceived waiting times. Key interventions to improve patient satisfaction will be those that develop the interpersonal and attitudinal skills of staff, increase the information provided, and reduce the perceived waiting time. Three broad headings cover the most commonly identified areas of importance. These three are particularly the perceived waiting time in relation to the patient's expectation.

However, study by Ismail et al. (2008) regarding patients' satisfaction at ED, Hospital Universiti Kebangsaan Malaysia (HUKM) to measure patient satisfaction with triage, health care providers caring behaviors and health teaching. Results showed that 75 participants (75%) were satisfied. Overall, patients were satisfied with services at the ED HUKM. (Ismail *et al.*, 2008)

2.2.2.1 Socio-Demographic

The most important uncontrollable factors are patient background, age, gender and disease severity. These factors are not easily controlled but they affect patients' expectations when they visit an ED. The most frequent uncontrollable factor that affects patient satisfaction was patients' background. Patients' background, such as education level, economic status, different languages or culture may affect their expectations, requirements and attitudes to treatment and ED staff. Age was found to be the second most important uncontrollable factor of patient satisfaction in the ED. Watson *et al* (1999) reported that elderly patients had greater expectations of emergency services than younger patients. Gender is another factor affecting patient satisfaction. The need for respect and privacy among females may be greater than among males (Chen *et al.*, 2003).

Study done by Shamsaini & Shamsuddin (2004) show customer satisfaction can be measure subjectively by service quality. Other then service quality, is factor like demography an influent to customer satisfaction. Finding showed that service quality significantly related to customer satisfaction from range 74.3% till 84.7%. There are no different between quality service and client satisfaction with nationality and time come to get treatment after the incident but only in type of abused from t-test result. ANOVA result showed there are no different between race and qualification with customer satisfaction and service quality except for age.

Most studies collected data on some ''background variables'', such as age, sex, social status, ethnicity, and severity of illness. Age and race influenced satisfaction in some studies, but not all (Taylor & Benger, 2004). The result of the demographic data showed no significant differences with the total scores of patient satisfaction, hence further research need to be done to identify patients' characteristic factor. (Ismail *et al.*, 2008)

2.2.2.2 Communication

For controllable factors, communication skills, attitude of ED staff, ability issues, as well as process at ED and environment of ED were the most frequently reported factors affecting patient satisfaction in the ED (Chen *et al.*, 2003). Communication skills, including information given, or explanation to patients or their families and friends, were thought to be the most important factor influencing patient satisfaction. Communication by staff is an active process. Information provided by ED staff to patients has a significant effect on patients' perception of the quality of care and overall satisfaction.

Good communication skills, such as delivery of information that patients anxiously want to know, tends to decrease criticism of long waiting intervals. Improvement of ED workers' communication skills is very important to improve the patient satisfaction of ED. Most patients can accept waiting if definite information about waiting time is provided by ED staff. This may explain why many papers reported that waiting time did not significantly affect patient satisfaction, but good communication did (Chen *et al.*, 2003).

2.2.2.3 Triage

Triage category was strongly correlated with satisfaction, but this also relates to waiting time. Triage category was strongly correlated with satisfaction, although this could be viewed as another indicator of the waiting time (Taylor & Benger, 2004).

According to Muntlin *et al.* (2006), patients who were triaged non-urgent identified more caring behaviors compared with patients in the emergent group. More attention has to be paid to the specific needs and expectations of the non-urgent group of patients. This group makes up a majority of the patients of many EDs and it is just as important for these patients to be satisfied with the quality of care as for the emergent patients.

According to Ismail et al. (2008), all patients presented to ED HUKM will undergo a two-tier triage process comprising of primary triage and secondary triage, the 5-level triage category system. Patients are divided into 5-level triage categories, triage 1 where immediate resuscitation and five beds are available in the resuscitation bays. Emergency cases are triaged as triage 2A and 2B. Urgent cases are categorized as

triage 3. It consisted of five cubicles with five beds and one Plaster of Paris room available for the patients at ED. Non-urgent cases such as minor conditions or old injuries, awaiting diagnostic tests and cases to be reviewed are placed at triage 4. Patients are reminded to call health care providers if the need arises, for example, when they feel intolerable pain or have sudden deterioration of conditions which may be life threatening. The majority of participants, 75% respondents were reported satisfied whereas 25% respondents were dissatisfied with the triage system used at the ED HUKM.

2.2.2.4 Waiting Time

According to Chen et al. (2003), the second-most frequent factor which was suggested to affect patient satisfaction in the ED was patient processing of ED. The factor which correlated most strongly with patient satisfaction was waiting time. Decreasing the waiting intervals may improve patient satisfaction. At the ED, waiting cannot always be avoided, so shortening waiting times and explaining to patients the circumstances regarding the waiting interval is very important.

Although several factors have been shown to impact patient satisfaction, little attention has been paid to understanding the psychology of waiting and patient satisfaction (Soremekun *et al.*, 2011). Wait time is a key component of patient satisfaction, and significant efforts have been made to reduce ED wait times and increase overall ED efficiency. Wait time is highly influenced by a patient's individual psychological processing. Only 25–35% of patients are able to accurately estimate their wait time, with a majority of patients overestimating their wait times. As such, two separate individuals experiencing the same wait time will process this experience

differently, resulting in two different perceptions of their wait experience. Other studies in nonclinical situations have also highlighted that not all waits are perceived as equal and that interventions can reduce patients' perception of their wait times. The studies suggest, changes in the wait experience can decrease the perceived wait times without a change in actual wait times. Interventions to decrease perception of wait times and increase the perception of service being provided, when combined with management of patient expectations, can improve patient satisfaction. (Soremekun *et al.*, 2011)

Review by Muntlin *et al.* (2006) and the conclusion are the transit time in the ED is made up of different episodes of waiting time. Many of our patients were not satisfied with the waiting time and this might have affected their perceptions of the quality of care. Waiting time is a key factor in patient satisfaction in EDs (Vescio *et al.,* 1999). An effective way to achieve satisfied patients is to manage perceptions and expectations of waiting time (Boudreaux & O'Hea 2004).

Murray & Berwick (2003) found that in their work with quality improvements, that delays in care are the result of unplanned, irrational scheduling and resource allocation. It is question of balancing supply and demand. Modern theories of production require progress to be measured, alternative designs for the work itself to be found and a high degree of trust.

Miro´ *et al.* (2003) studied patient flow and found that both external and internal factors can affect ED effectiveness and waiting times. Many elements of ED care are difficult for an individual provider to improve, such as waiting time, boarding time, use of hallway treatment space, and overall levels of ED crowding that might reduce staff availability and impede ancillary services (Pines *et al.*, 2008)

The study done by Ismail et al. (2008) at ED HUKM, patients are divided into 5-level triage categories, triage 1 where immediate resuscitation and five beds are available in the resuscitation bays. Emergency cases are triaged as triage 2A and 2B. Intervention will be provided in triage 2A less than 10 minutes and six beds are catered to meet patients' needs, however for triage 2B cases treatment is within 30 minutes and there are five beds. At triage 3, treatments will be rendered not later than 60 minutes. Non-urgent cases are placed at triage 4 and patients will be seen by doctor within two hours. However, patients are reminded to call health care providers if the need arises, for example, when they feel intolerable pain or have sudden deterioration of conditions which may be life threatening. The majority of participants who reported satisfaction comprised 75% respondents whereas 25% respondents were dissatisfied.

2.2.3 Importance of Patient Satisfaction on Health Services

As awareness of consumerism in health services grows, evaluation of patient satisfaction has become increasingly important, particularly for hospital management when evaluation of patient satisfaction might be an important reference indicator for future insurance assessments (Chen *et al.*, 2003).

Health care providers must encourage the evaluation of patient satisfaction and the fulfillment of patient's expectations. Patients' satisfaction will remain an important quality outcomes measure of emergency care in a hospital (Ismail *et al.*, 2008). Improved satisfaction in EDs is likely to have a significant impact on the public view of hospital and emergency care in general. There is also evidence of improved patient compliance. Related benefits may include improved morale and job satisfaction in emergency

department (ED) staff, a reduced tendency for patients to seek further opinions, and a reduced incidence of complaints and litigation. (Taylor & Benger, 2004)

According to Mastandrea *et al.* (2007), satisfied patients were also found to be easier to treat, more likely to be compliant with giving a detailed history and less likely to pursue lawsuits. Another study show that satisfied patients are more likely to be compliant with their medications, return for continuing medical care, and communicate more effectively with their physicians (Pines *et al.*, 2008).

According to Yancy *et al.* (2001), there one study that found that patients of physicians who received low patient satisfaction ratings were more likely to seek another provider within 6 months.

A study done by Ismail et al. (2008), satisfied patients are more likely to return for follow up treatment, the results indicated that 52% of the patient visit to ED HUKM were referral and followed up cases. Satisfied patients are more likely to comply with prescribed treatments and therefore may have better outcome, which bring benefits to both patients and health care providers.

2.2.4 Instrument

Design of patient satisfaction surveys should allow for measurement of patient normative and predictive expectations to identify the full scope of factors impacting patient satisfaction. (Soremekun *et al.*, 2011). The questionnaire is the most common method to evaluate patient satisfaction. The purpose of study was to assess the quality of patient satisfaction questionnaires in emergency departments in Taiwan and to review data from the literature to investigate the factors affecting patient satisfaction in the ED. (Chen *et al.*, 2003)

The main purpose of designing a questionnaire to measure patient satisfaction is to determine which controllable factors can be improved in the ED (Chen *et al.*, 2003). Using the results of the patient satisfaction questionnaires, health care providers can identify problems with their ED services and improve their quality of care, thereby increasing patient satisfaction. From the study, their found that some of the hospitals lacked a special questionnaire for ED patients. If patient satisfaction questionnaires of EDs are incomplete, the information for them is inadequate. Their study may provide a clearer understanding of how to design and evaluate patient satisfaction questionnaires for use in the ED so that all relevant factors are included. A greater awareness of the factors affecting patient satisfaction in the ED among ED staff may lead to improved patient satisfaction and a positive working atmosphere in EDs.

Bernard et al. (2007) have done patient satisfaction survey. The survey was designed to be brief and to assess two primary domains of satisfaction: interaction and communication, in addition to overall satisfaction. Five quantitative questions were included that used a standard 5-point Likert scale, anchored by 'very satisfied' and 'very unsatisfied'. Two of the questions assessed personal interactions between EMS providers and patients, two assessed communication, and the fifth was a global satisfaction measure. In addition, three qualitative questions were included to provide patients an opportunity to express concerns about care, suggestions for improvement, and to identify the most important factor affecting how the patient felt. Open ended questions also allow assessment of domains incompletely captured by structured questions, and can result in higher reports of elements of care that are dissatisfiers.

The study by Shamsaini & Shamsuddin, (2004) have used questionnaires with Likert Scale was used for 22 items to measure service quality as suggested. The study was held at OSCC for about a month, where random sampling was used. Tangible, reliability, responsiveness, assurance and empathy are variables used for service quality. Average mean for service quality in range between 4.02 till 4.16 and mean customer satisfaction is 3.57. Result from hypothesis testing showed that service quality significantly related to customer satisfaction from range 74.3 percentage till 84.7 percentage. There are no different between quality service and client satisfaction with nationality and time come to get treatment after the incident but only in type of abused from t-test result. ANOVA result showed there are no different between race and qualification with customer satisfaction and service quality except for age.

A cross-sectional survey done by Yancy et al. (2001), using a questionnaire derived from the Visit-Specific Satisfaction Questionnaire (VSQ) and Patient Satisfaction Index (PSI). Total 11 questionnaire was derived from the Visit-Specific Satisfaction Questionnaire (VSQ) and 9 questions from the Patient Satisfaction Index (PSI). The VSQ-derived questions were scored on a 5-point rating scale from "Poor" to "Excellent" and asked specifically about satisfaction with this particular clinic visit. The VSQ has established psychometric properties that demonstrate reliability and validity; internal consistency reliability estimates ranged from 0.87 to 0.93 based on Cronbach's α. The PSI-derived questions were scored on a 6-point scale from "Strongly Disagree" to "Strongly Agree" and asked about satisfaction with this clinic visit and previous care from this particular physician. In the PSI's original format, reliability estimates were approximately 0.90 based on Cronbach's α. In addition, the questionnaire