

# PATIENT SATISFACTION WITH HEALTH CARE SERVICES OFFERED BY HOSPITALS IN MADURAI DISTRICT OF TAMILNADU, INDIA – AN ANTHROPOLOGICAL VIEWPOINT

Dr. J. Praveen Paul

Professor, Mepco School of Management Studies, MepcoSchlenk Engineering College, Sivakasi

## Abstract

This research aims to address the issues pertaining to the management and marketing of the health care centres. One of the important components of that is Patient satisfaction. The overall patient satisfaction with hospital services is associated positively with intentions to return to the same facility. To study the patient's satisfaction on the health care service they derive with the hospitals they visit, the antecedents such as the doctors' demeanour, doctors' way of prescribing appropriate medicines and diagnostic tests, the fees fairness, the tangible physical equipment and other implements in a hospital, intangible factors such as the popularity of the hospital and the popularity of the doctors, the patients opinion on queue and the patients opinion on appointments in the hospitals were considered and hypotheses were formulated accordingly. To test the hypotheses, data was collected from 252 patients visiting various hospitals in Madurai district of Tamilnadu, India. The opinion of the patients on the various factors was collected through a five point Likert scale. The hypothesis were analysed using linear regression model to find out whether there is any significant relationship between the patients satisfaction on hospitals and intangibles. It was found that all the factors considered have a significant and contingent effect on the patient satisfaction on doctors and hospitals.

**Keywords:** Patient Satisfaction, Doctors' demeanour, Doctors' prescribing appropriate medicines, Fees fairness, Physical equipment, Popularity of doctors, Linear Regression, IBM SPSS®,

## 1 Introduction

Patient satisfaction is an important measure of healthcare quality as it provides information on the hospital's success at meeting the patient's expectations and relationship between doctor and patient remains the focal point in a variety of disciplines such as medical anthropology, health economics, sociology and medical sciences (Xesfingi & Vozikis, 2016). Patient perception on health care has become an important aspect in determining the quality of health care (Senarath, et al., 2013). The overall patient satisfaction with hospital services is associated positively with intentions to return to the same facility (Mummalaneni & Gopalakrishna, 1995). Measurement of patients' satisfaction with services provided by the concerned hospital and the doctor is important from two angles. Firstly, patients constitute the hospital's direct clientele. Thus overall satisfaction of the patients is an important aspect of the service itself, apart from other dimensions like technical quality of medical care, effectiveness of treatment etc. Secondly, patient satisfaction provides an indirect measure of the other dimensions as well (Mahapatra, Srilatha, & Sridhar, 2001).

There are very few studies in India that measure patient satisfaction with the services provided by health care organizations and researches are still in its infancy (Bhattacharya, Menon, Koushal, & Rao, 2003) (Talluru & Prasad, 2003) (Bhargava, Thakur, Mishra, Taneja, Dogra, & Loomba, 2012), (Naik & Byram, 2016). Studies relating to patient behaviour and satisfaction are also not that many.

There is increasing evidence to suggest that patients' satisfaction is usually correlated with effectiveness of treatment. According to (Rapert & Babakus, 1996), for a health care organization to be successful, monitoring customers' perceptions is a simple but important strategy to assess and improve their performance. (Andaleeb, 1998) proposed and tested a five factor model that included communication with patients, competence of the staff, their demeanour, quality of facilities and perceived costs.

According to (Crane & Lynch, 1988), if health care marketers can understand the criteria customer use to evaluate them and can identify which cues are used to assess those criteria, they will be better able to manage and influence the consumers' evaluations and perceptions of their service offering. Marketers accept the notion that controllable and uncontrollable variable in the environment affect the consumer's perception of their product offering. If physicians can understand the criteria used by consumers in evaluating and selecting them they will be in a better position to manage their service offering.

Further according to (Ross, Frommelt, Hazelwood, & Chang, 1987), success in retaining current patients and attracting new ones is ultimately the means of survival in the medical market place. Success in retaining or attracting patients may result from patient satisfaction with the medical care they receive. Patients' willingness to remain with any individual physician may be due directly to satisfaction or dissatisfaction. Similarly, satisfied or dissatisfied patients generate reports about the adequacy of care or service that may attract or deter potential patrons of the medical establishment. Patient satisfaction may also be an important factor in successful medical treatment. Satisfied patients might be expected to participate in and comply with treatment and rehabilitation, thus increasing the likelihood of successful outcomes. Successful outcomes, in turn, are likely to result in satisfied patients.

One common approach to the measurement of satisfaction, exemplified by (Heine & Trosman, 1960), is the use of a behavioural indicator such as patient continuance or dropout. The assumption is that patients who do not continue in therapy are dissatisfied. (Thimmappayya, Pareek, & Agarwa, 1971), establishes a relationship between hospital status, employee satisfaction and service leading to patient satisfaction.

## 2. Review and Research Approach

(Trakroo, 1977) listed some of the factors which affect the satisfaction level of patients who are utilizing outpatient services. They include 1.unusually long time at registration, 2.irritable behaviour of registration clerk, 3.lack of facilities for toilet, drinking water, 4.lack of proper space for waiting, 5. too long waiting time for doctor consultation, 6.undesirable behaviour of doctors and , 7. communication gap between doctor and patient.

According to (Talluru & Prasad, 2003), the factors that can be used to measure patient satisfaction are tangibles explained by the appearance of the hospital, availability of equipment and other physical facilities, reliability, responsiveness, assurance and empathy. Similarly according to (Crane & Lynch, 1988), some of the factors that affect the patients' selection of doctors and thus the satisfaction are the doctors' courtesy, competence, availability, reputation, interpersonal skills, responsive service, physical facility and personal appearance. In this study it is observed that the respondents were consistent in stating that they believed too many patients waiting in the physician's office indicated over booking and thus poor service, but seeing no patients too indicated possible inferior quality of service.

Another factor having an impact on the patient satisfaction of hospital or doctors is the fee charged by the hospital or doctors. This aspect is explained by (Satyanarayana, Padma, & Vijayakumar, 2004). Here the authors say that the limited resources, wide spread poverty and the absence of health insurance pose daily ethical problems for third world physicians, who must balance their roles as individual patient's advocates against desire to provide health care to the greatest number of patients. Because of this reason fees fairness plays a major role in deciding the satisfaction of patients.

Further observing the research done by (Bedi, Arya, & Sarma, 2004), it can be seen that the authors have said that the patient satisfaction is influenced by various factors such as patient opinion on queue or the waiting time, consultation time, doctor listening to the problems and explaining the treatment, health education and dietary counselling by doctors, Attitude/behaviour of doctors (empathy), Expectation from Physical Facilities (tangibles), and Expectations from Doctors regarding clinical competence (reliability/assurance).

Some of the antecedents for patient satisfaction are factors such as caring, empathy, reliability and responsiveness (Tucker & Adams, Incorporating patients' assessments of satisfaction and quality: An integrative model of patients' evaluations of their care, 2001). (Ware, Davies - Avery, & Stewart, 1978) identified dimensions affecting patient satisfaction which includes factors such as physician conduct, service availability, continuity, confidence, efficiency and outcomes.

Patient-physician contacts, waiting times, convenience and availability are associated with patient satisfaction and healthcare experiences (Tucker, The moderators of patient satisfaction, 2002). Staff

demeanour also has a significant impact on patient satisfaction. The manner in which staff and doctors interact with the patient and staff sensitivity to the patient's personal experience is important (Andaleeb, 1998). (Lovdal & Peerson, 1989) found that doctors' and other medical personnel's behaviour (demeanour) were central determinants of patients' attitudes and satisfaction about a hospital as a whole.

The findings by (Naik & Byram, 2016) put forward that in addition to patient satisfaction, the only health-care service quality dimension that directly affects patient behavioural intention is empathy of the doctors towards the patients. Further, empathy affects responsiveness, assurance and tangibles which, in turn affect patient satisfaction. The study of (Mummalaneni & Gopalakrishna, 1995) examines some demographic factors such as age, gender, occupation, employment status, education and income on patient satisfaction. The study reveals that income is the only socio-demographic factor that has an impact on patient satisfaction

While observing the works of (Chandler, Chandler, & Dabbs, 2000) it becomes clearly evident that, in their study, the experience and reputation of the doctor were more frequently cited as most important factors in selecting a doctor. Similarly while looking into the works done by (McMillan, 1996) and (Fawson, Herzberg, & Looney, 2000), the factor image and reputation of the doctor or hospital is a primary criterion for patients to choose a hospital or a doctor. While looking into the works of (Bateson, 1989), (Bessom & Jackson, 1975), (Lovelock, 1979), (Shostack, 1977), the authors point that patients use tangible cues to evaluate the health care they receive. The better the hospital is equipped, the better is the perception of the health care quality they receive from that hospital. This same opinion is also expressed in the analysis shown in Table 8.6. This table links the satisfaction to be impacted by the tangibles in the hospital which is the same opinion expressed by the above authors too. Similarly fees fairness affecting the satisfaction of the hospitals is also evident in the article by (Nandraj, Beyond the Law and the Lord: Quality of Private Health Care, 1994) and (Kale, 1996).

According to (Mowen, Licata, & Mc Phail, 1993), patient's waiting time in queue is an important indicator of the responsiveness of a service provider. The authors claim that time spent on waiting can be psychologically painful. (Davis & Vollmann, 1990) found that customer satisfaction is inversely related to waiting time. In an empirical study conducted by these authors, waiting time was correlated to self report of satisfaction. The researchers found that the longer a customer waited, the less satisfied he or she because of the service. The same opinion is expressed by (Maister, 1985) also.

Finally on the factor of doctor's prescription for unnecessary medicines or lab tests or prescribing costly medicines or getting kickbacks from pharmaceuticals for prescribing certain medicines etc also have a significant impact on patients' satisfaction on doctors. This effect of prescribing unnecessary medicines or surgery on patients satisfaction is observed in the articles by (Kannan, Thankappan, & Aravindhan, 1991), (Jesani & Anantharaman, Private sector and Privatization in Health Care services, 1993), (Nandraj, Beyond the Law and the Lord: Quality of Private Health Care, 1994) (Nandraj, Unhealthy prescriptions: The need for health sector reform in India, 1997), (Jesani, Medical ethics and professional self regulation: Some Recommendations, 1996) and (Ambulgekar, 1996). Similarly (Gardner, 2003) discusses about doctors over prescribing drugs.

### 3 Hypotheses and Methodology

Because all the facilities and the competency of the doctors need to achieve the satisfaction of the patients, studying their consumption of health care services and the satisfaction on the services provided by the doctors and the health care centres become pertinent.

To study the patient's satisfaction on the health care service they derive with the hospitals they visit, the antecedents such as the doctors' demeanour, doctors' way of prescribing appropriate medicines and diagnostic tests, the fees fairness, the tangible physical equipment and other implements in a hospital, intangible factors such as the popularity of the hospital and the popularity of the doctors, the patients opinion on queue and the patients opinion on appointments in the hospitals were considered.

For this analysis the null hypotheses proposed are:

- H<sub>0</sub> : Overall satisfaction on hospital is not affected by the Doctor's demeanour  
 Overall satisfaction on hospital is not affected by the Doctor's way of prescription  
 Overall satisfaction on hospital is not affected by the Fees Fairness  
 Overall satisfaction on hospital is not affected by the Opinion on appointments  
 Overall satisfaction on hospital is not affected by the Opinion on queue  
 Overall satisfaction on hospital is not affected by the Tangibles

Overall satisfaction on hospital is not affected by the Intangibles

$H_1$  : Not so

In order to test the relationship between the variables, linear regression model is used. Earlier researchers have used linear regression model in their research to test hypothesis for establishing a proposed relationship (Eliason, Guse, & Gottlieb, 2000)(Hair, Anderson, Tatham, & Black, 2003)(Olsen, Slater, Thomas, & Hult, 2005).

To test the above mentioned hypotheses, data was collected from 252 patients visiting various hospitals in Madurai district of Tamilnadu, India. The opinion of the patients on the various factors was collected through a number individual items in those factors. A five point Likert scale was used to measure the opinion of patients on the doctors and other aspects of health care.

Responses to the questionnaires were coded and entered into the IBM SPSS ®26.0 (Enterprise version) through Microsoft Excel and the analysis used IBM SPSS ® and Excel. Conventional analysis, mainly the averages and percentage analysis have been used to examine overall opinion of patients on various factors. The hypothesis were analyzed using linear regression model to find out whether there is any significant relationship between the patients satisfaction on hospitals and intangibles.

#### 4 Results and Discussion

The overall satisfaction of patients on hospitals and the patients' opinion on factors such as the doctor's demeanour, doctor's way of prescription, fees fairness, patients' opinion on queue and appointments, intangibles, and tangibles, are presented in Table 1.

**Table1: overall opinion of patients on various factors**

Factors	$\bar{x}$	$\sigma$	$\sigma^2$
Satisfaction on hospitals	31.95	3.63	13.18
Doctor's demeanour	16.68	2.07	4.28
Doctor's way of prescription	18.80	3.45	11.90
Fees Fairness	6.82	1.63	2.66
Opinion on appointments	3.70	0.95	0.90
Opinion on queue	3.44	0.98	0.96
Tangibles	16.20	2.38	5.66
Intangibles	10.04	2.25	5.06

Source: Primary data collected

From the table it is evident that, the patient satisfaction on hospitals is 80 % (the mean value 31.95 divided by the maximum score for that factor which is 40) with a mean value of 31.95 ( $\sigma = 3.63$ ). Also the patient opinion on doctors' demeanour is 83.4 % with a mean value of 16.68 ( $\sigma = 2.07$ ). The patients' opinion on the doctor's way of prescription is 75.2% with a mean of 18.80 ( $\sigma = 3.45$ ). Similarly the opinion of patients factor fees fairness is 68.2 % with a mean of 6.82 ( $\sigma = 1.63$ ), opinion on appointments is 74% with a mean of 3.70 ( $\sigma = 0.95$ ), opinion on queue is 68.8% with a mean of 3.44 ( $\sigma = 0.98$ ), tangibles is 81 % with average value of 16.20 ( $\sigma = 2.38$ ). Finally the patients' opinion on the factor intangibles is 67 % with a mean of 10.04 ( $\sigma = 2.25$ ).

##### 4.1 Satisfaction of patients on factors considered

To find whether the satisfaction of patients on hospitals is influenced separately by the various factors such as the doctor's demeanour, fees fairness, patient's opinion on appointments in the hospital, patient's opinion on queue, the tangibles which are equipment, beds, etc in a hospital, intangibles such as the reputation of the hospital and doctors, a linear regression model with stepwise estimation was used.

Linear regression model analyses the impact of the independent variables individually on the patients' satisfaction on hospitals without constraints i.e. without hierarchically studying the effect of independent variables on dependent variable, the independent variables were entered into a regression

model separately. The results of the individual regressions are compiled given in Table 2. Observing the results it is evident that all the antecedents considered for the study have a significant impact on the patients' satisfaction.

**Table 2: linear regression for patients' satisfaction on hospitals**

Variables	Regeo eff.	t	R <sup>2</sup>	Change statistics		Significance	H <sub>0</sub>
				R <sup>2</sup>	F		
Control	-	-	0.001	0.002	0.717	.488	-
Doctor's demeanour	0.878	14.120	0.249	0.250	199.374	.000	Reject
Doctor's prescription	0.395	9.902	0.139	0.141	98.051	.000	Reject
Fees Fairness	-0.187	2.048	0.005	0.007	4.194	.041	Reject
Opinion on appointments	0.835	5.454	0.046	0.047	29.744	.000	Reject
Opinion on queue	-0.495	3.281	0.016	0.018	10.766	.001	Reject
Tangibles	0.661	11.736	0.186	0.187	137.743	.000	Reject
Intangibles	0.383	5.989	0.055	0.057	35.867	.000	Reject

Source: Primary data collected

The linear regression equations for the factors which have a significant impact on the patients' satisfaction on hospitals are discussed below. The regression equation is of the form  $y = a + b_1x_1 + b_2x_2 + b_3x_3$ . Since all the equations use the demographic factors as control variables,  $x_1$  is the gender of the patients,  $x_2$  is the age of patients, and  $x_3$  is the antecedent which influences the patients' satisfaction on hospitals,  $b_1$ ,  $b_2$ , and  $b_3$  are the respective regression coefficients.

The linear regression equations formed for each of the significant factors are as follows:

**Satisfaction on hospitals and Doctors demeanour:**

$y = 17.304 + 0.130x_1 + 0.012x_2 + 0.878x_3$ . The regression equation shows that as the patients' perception about the doctor's demeanour increases, their satisfaction on hospitals increases. This shows that if the doctors' approach and behaviour towards the patients is friendly and pleasant, then the satisfaction of the patients increases. The regression equation also shows that the relationship between doctor's demeanour and patient satisfaction is quite significant ( $F = 199.374$ )

**Satisfaction on hospitals and Doctors way of prescription:**

$y = 24.522 + 0.138x_1 + 0.184x_2 + 0.395x_3$ . The regression equation signifies that the doctor's way of prescription has a positive impact on patient satisfaction. This means that, if the patients believe that the doctor does not prescribe costly or unwanted drugs for the given ailment, then the patients' satisfaction increases.

**Satisfaction on hospitals and Fees Fairness:**

$y = 33.223 + 0.130x_1 + 0.015x_2 - 0.187x_3$ . The regression equation indicates that as the patients' opinion on fees fairness decreases, their satisfaction on hospitals decreases. This means that, if the patients feel that the hospital they visit does not charge lesser fees compared to other similar hospitals and also the doctor does not charge appropriate fees for the given ailment, then the patients' satisfaction decreases.

**Satisfaction on hospitals and Opinion on appointments:**

$y = 28.862 + 0.133x_1 + 0.017x_2 + 0.835x_3$ . The regression equation implies that as the patients' opinion on appointment systems increases, then their satisfaction on the hospitals is also high. This reveals that, if the opinion on appointment is higher for the patients, then the satisfaction is also higher which means that if the patients feel that the appointment system followed is appropriate, then their satisfaction is also high.

**Satisfaction on hospitals and Opinion on queue:**

$y = 33.651 + 0.199x_1 + 0.008x_2 - 0.495x_3$ . While observing the regression equation, it can be seen that, if the patients feel that if their opinion on queue decreases, then their satisfaction on the hospitals also

decreases. The negative coefficient in the regression equation implies that if the patients feel that the time spent on waiting in a queue is frustrating then their satisfaction on hospitals is decreased.

#### **Satisfaction on hospitals and Tangibles:**

$y = 21.240 - 0.210 x_1 + 0.005 x_2 + 0.661 x_3$ . The regression equation signifies that the factor tangibles have a positive impact on the satisfaction of hospitals for the patients. This signifies that if the patients' expectation on the physical facilities available in the hospitals, the cleanliness of the hospital and a friendly hospital environment is high then the patients' satisfaction on hospital is also high. At  $F = 137.743$ , the impact of tangible on patient satisfaction could be considered to be quite high.

#### **Satisfaction on hospitals and Intangibles:**

$y = 28.100 + 0.290 x_1 + 0.010 x_2 + 0.383 x_3$ . The regression equation reveals that if the patients' opinion on intangibles increases, then their satisfaction on hospitals also increases. This signifies that if the patients' expectation on the popularity of the hospital and the choice of hospital for the appropriate ailment are high, then the patients' satisfaction on hospital is also high.

### **5 Summary and Conclusion**

The various observations made in these analyses are reiterated in the various researches done by many researchers in the past. According to Roland Rust, physical surroundings and other visible cues can have a profound effect on the impressions customers form about the quality of service they receive. The same concept can be inferred from the article by (Bitner, Evaluating service encounters: The effect of physical surroundings and employee responses, 1990) (Bitner, Servicescapes: The impact of physical surroundings on customers and employees, 1992). (Fottler, Ford, Roberts, & Ford, 2000) claim that, physical setting is important because it is part of creating and meeting customer expectations, creates and enhances the patients' moods and create a 'memorable' healing experience. In a study done by (Boscarino & Steiber, 1982), one of the criteria described as used by patients for the choice of hospital is that, it has best equipment in it to treat various ailments. In a study done by (Reidenbach & Smallwood, 1990), the authors had concluded that the appearance of the physical facilities affected the overall satisfaction of the patients. This opinion is consistent with the results of the analysis done in this research also.

Similarly patients' acceptability on hospitals based on intangibles also affects their satisfaction. Intangible factors such as the behaviour and attitude of the personnel providing the services, behaviour of doctors, etc will influence the overall perception satisfaction of the service (Venugopal & Raghu, 2001). (Boscarino & Steiber, 1982) and (Lindquist, Patient confusion and misperception about the doctor of osteopathy and the medical doctor, 1988) (Lindquist, Measuring of Image, 1974) found that courtesy or staff attitude to be of importance as hospital choice factor for patients. In another study done by (Reidenbach & Smallwood, 1990), the authors have given service evaluation criteria specific to health care services in which courtesy explained by politeness of physicians, politeness of nurses and politeness of other hospital staff figures out prominently. Also according to a study done by (Wallace, 1985), patients appear to choose hospitals primarily on the basis of the doctors they select. (Ben-Sira, 1983) states that patients base their images of hospitals on both the perceived professional competency of the hospital staff and how they are treated as patients. Thus it can be identified that the intangibles such as the image of doctors and hospitals and other factors such as courtesy of the hospital staff and other staff can have a direct impact on the satisfaction of the patients.

Further, fees fairness which includes charging less fees for subsequent visits and charging appropriate fees for the treatment offered also has a significant impact on the satisfaction of patients. This is evident from the works of (Nandraj, Beyond the Law and the Lord: Quality of Private Health Care, 1994) and (Kale, 1996). Also the effect of queues on patient satisfaction is reinforced by the works of (Pascoe, 1983) where it is said that, waiting time could be an important element of dissatisfaction in the health care environment. (Larson, 1987) has noted that waiting can be related to stress and overall evaluation of satisfaction. According to (Somani, Daniels, & Jermstad, 1982), long waiting time has been given as a reason why some patients do not visit certain health care service centres. Similarly maintaining appointments also have a significant impact on the patient satisfaction.

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