

## **A Study to Find the Level of Satisfaction of Patients in Hospitals**

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**Abstract:** Patient satisfaction is deemed to be one of the important factors which determine the success of health care facility. The real challenge is not getting ready with mere requirements, but also delivers services ensuring good quality. Thus, there is a need to assess the health care systems regarding patient satisfaction as often as possible.

**Aims and Objective:** To find the level of the patients' satisfaction in leading Hospital.

**Material and Methods:** A randomly selected 100 patients were interviewed by using pre-structured questionnaires at the end of their consultation.

**Conclusion:** According to patient's opinion, the study revealed that the degree of satisfaction was mild to moderate with respect to waiting time and availability of specialist in the hospital, which need to be further explored and corrected

**Key words:** Patient satisfaction, Health care services, Outpatient department

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### **I. Introduction**

Healthcare is one of India's largest sectors, in terms of revenue and employment, and one can well witness the sector to expand rapidly. With the fast growing purchasing power, Indian patients are willing to pay more to avail health care services of international standard. In the era of globalization and heightened competition, it has been observed that delivery of quality service is imperative for Indian healthcare providers to satisfy their indoor as well as outdoor patients.

The purpose of health care services is to improve the health status of the population. The scope of health services varies widely from country to country and influenced by general and ever changing national, state and local health problems, needs and attitudes as well as the available resources to provide these services. There is now broad agreement that health services should be comprehensive, accessible, acceptable, provide scope for community participation and available at a cost the community and country can afford.

Patient satisfaction is deemed to be one of the important factors which determine the success of health care facility. It is easier to evaluate the patient's satisfaction towards the services provided than to evaluate the quality of medical services that they receive. Therefore, a research on patient satisfaction can be an important tool to improve the quality of services. Health care consumers today, are more sophisticated than in the past and now demand increasingly more accurate and valid evidence of health plan quality.

Health care organizations are operating in an extremely competitive environment, and patient satisfaction has become a key to gaining and maintaining market share. The health care system depends on availability, affordability, efficiency, feasibility and other factor. Evaluation of healthcare provision is essential in the ongoing assessment and consequent quality improvement of medical services. Traditionally, assessments have ignored the reports of patients in preference to technical and physiological reports of outcome. More recently, however, healthcare systems have sought to achieve a balance in services that offer not only clinically effective and evidence based care, but which are also judged by patients as acceptable and beneficial. Health care which improves health only in some limited technical sense, but does not improve the quality or length of life, is not likely to be viewed as beneficial by patients. Interest has therefore grown not only in the assessment of treatment interventions by patients, but in the systematic evaluation of the delivery of that care. Most significantly, attempts have been made to determine the features of patient care that are likely to influence patient satisfaction.

Consumer satisfaction regarding medical care organization like our tertiary care hospital is important in the provision of services to patients. This study was therefore undertaken with the aim to find out the level of patient satisfaction related to different parameters of quality of health care.

On the basis of literature review from secondary sources, the layout of this project appears as follows:

- Importance of customer satisfaction in service sector
- Understanding the concept of patient satisfaction
- Analyzing the notion of patient satisfaction as a subset of customer satisfaction

- Study of patient satisfaction as a tool for measurement of service quality

A cross-sectional study was carried out in 100 patients attending outpatient department in hospital. The patients were selected randomly from different specialty Department. The study was conducted for 5 days from 16<sup>th</sup> January, 2015 to 20<sup>th</sup> January, 2015.

All patients were interviewed by using pre-structured questionnaires which including,

1. Socio-demographic characteristics of patients
2. Registration process, waiting time, seating arrangements, cleanliness
3. Approach to the hospital and doctor.
4. Services provided by the doctor and other
5. Para-medical staff and their behaviour with patients.
6. Clinical care
7. Time required for locating the hospital, finding the department, registration process, Consults by the doctor, investigations and taking medicines from medical store.
8. Cost of registration, medical services and medications.

## **II. Patient Satisfaction: Review of Literature-Elucidation Of The Concept**

Satisfaction is a psychological concept which is defined in different ways. Sometimes satisfaction is considered as a judgment of individuals regarding any object or event after gathering some experience over time. According to some theorists, satisfaction is a cognitive response whereas some others consider satisfaction as emotional attachment of individuals.

Howard and Sheth (1969) explained customer satisfaction as a cognitive response of customers. Hunt (1977) defined consumer satisfaction on the basis of consumers' evaluation of consumption experience. On the other hand there are exponents namely,

Churchill and Surprenant (1982) who have defined consumer satisfaction based on the cognitive and affective dimensions of the concept. Further Oliver (1997) highlights definitions on customer satisfaction that recognize the emotional bent of a consumer towards the desired products or services.

Mutawa et.al. (2006), in the conference paper, have mentioned that service or product itself is one of the principal factors of customer satisfaction; defined as a system that customer goes through to receive the value for money. Newman et.al. (2001) opined that customer service is a prerequisite for customer satisfaction. The value of service consists of eight dimensions viz. reliability, assurance, access, communication, responsiveness, courtesy, empathy, and tangibles (Brown, 1997; Caruana and Pitt, 1997; Cooke, 1998; Homburg and Garbe, 1999; Clemes et al., 2001; Sower et al., 2001; Yang et al., 2003).

In some literatures, customer satisfaction has been defined as a cyclical model which explains the relationship between customer satisfaction and customer loyalty. According McAlexander (2003) customer satisfaction is an antecedents of loyalty where as Compton (2004) opined that the customer loyalty drives the expectation value that eventually drives the value of customer satisfaction in future purchase (Compton, 2004).

Lee(2004) defined customer satisfaction as a ratio of customer perception and customer expectation. According to the Centre for the Study of Social Policy (2007), satisfaction is A personal assessment of customers which is affected by both the expectation and experience of customers. Satisfaction is an emotional response (Zineldin 2006).Some theoretical concepts point out the disconfirmation of expectations model (Oliver, 1980, Carson et.al.1998). Satisfaction is also described on the basis the value of products and services that customers or patients evaluate depending on customers' experience and perception (Liljinder and, Strandvik, 1995). Smith and Swinehart (2001) pointed out a strong relationship between quality of product or service and satisfaction of customers. According to them, customers' perception regarding quality of products or services brings about satisfaction in their mind.

Healthcare is the fastest growing service in both developed and developing countries (Dey et al 2006). Patients are now regarded as healthcare customers, recognizing that individuals consciously make the choice to purchase the services and providers that best meet their healthcare needs (Wadhwa, 2002). Related to this, healthcare quality and patient satisfaction are two important health outcome and quality measure (Ygge and Arnetz, 2001; Jackson et al., 2001; Zineldin 2006). Some literatures identified the satisfaction as a super-ordinate construct and considered perceived service quality as an antecedent of satisfaction (Cronin, Brady and Hult, 2000; Cronin and Taylor, 1994). Some studies on health care service observed a causal relationship between perceived service quality and patient satisfaction (Woodside et.al., 1989, Choi et.al.2004). In fact, meeting the needs of the patient and creating healthcare standards are imperative to achieve high quality (Ramachandran and Cram 2005). Therefore, the patient is the center of healthcare's quality agenda (Badri et al.,2007). Scotti, Harmon and Behson (2007) conducted a study that supports the argument that the perceived quality is one of the determinants of patient satisfaction.

Patient satisfaction is directly related to the perceived service quality. Therefore, it is important to conduct a literature survey to understand how the measurement of service quality is important to determine patient satisfaction.

Bashaier Fathi Tawfeq Al Sharif , in his thesis on patient's satisfaction with hospital services at Nablus district, West Bank, Palestine, observed that 36.7% of cases were from internal medicine department which is similar to the present study. Apart from it, 36.7% from surgery department, 15.3% from Obs. & Gyn. and 9.6% cases were from orthopedic department.

Dr SK Jawahar , in his study on out patient satisfaction at a super specialty hospital in India, had reported that, as much as 50% of the patients were satisfied with regard to the cleanliness of the hospital. In another study by Prasanna K S. et al on consumer satisfaction about hospital services: A study from the outpatient department of a private medical college hospital at Mangalore, it was shown that patients were fully satisfied in respect to seating arrangement, cleanliness in the OPD and OPD timing, which was almost similar to our study. While satisfaction level regarding services by the paramedical staff, finding the specialist in the department in OPD and availability of doctor in hospital were 88%, 84% and 99% respectively.

Explanation of the disease by the doctor was satisfactory in about 91% of patients in the present study; which was 81.6% in a study of Acharya and Acharya. The findings of the study by Hassan Soleimanpour et al, on emergency department patient satisfaction survey in Imam Reza Hospital, Tabriz, Iran revealed that the satisfaction level of patients in regard to the information given by care provider about medication was very good in 49.4% of patients.

In a study by Acharya & Acharya , 82.8 % of the respondents showed that the approach of the doctor is personal, 93.2% of the subjects were satisfied with the examination by the doctor, and it was simple and easy to understand in 60% of the cases.

Aleena Tasneem et al, in their study on patient satisfaction: A comparative study at teaching versus DHQ level hospital in Lahore, Pakistan; noted that location of hospital was convenient in 38% of patients for teaching hospitals and 42% of patients for DHQ level hospital; while 80% of patients in teaching and 95% in DHQ level

Hospital were satisfied with the time waited by them to be seen by doctor. And regarding satisfaction level of patients with the medications available free of cost in hospital and with the amount spent for medical needs were 76% & 74% for teaching hospitals and 95% each for DHQ level hospital respectively.

### **III. Objective of the Study**

1. To determine what aspects of healthcare provision are most likely to influence satisfaction with care and willingness to recommend hospital services to others.
2. To determine the level of satisfaction.
3. To identify the factors that affects the level of satisfaction.

### **IV. Source Of The Questionnaire**

**Questionnaire designed:**

**Anand D, Kaushak SK, Gupta SC Indian Journal Of Community Health, Vol,24, No.3, July 2012-Sep.2012**

**Krupal Joshi, Kishor Sochaliya, Shyamal Purani, Girija Kartha, International Journal of Medical Science and Public Health | 2013 | Vol 2 | Issue 3**

**The questionnaires included in this study:**

#### **1. Doctors are good enough in explaining the reason for medical test**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

#### **2. Hospitals has complete facilities needed to provide complete medical care**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

#### **3. The Medical care I have been receiving is just above perfect**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**4. I feel confident that I can get the medical care I need without being set back financially**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**5. In medical care hospital is careful to check everything when treating and examining**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**6. I pay for more of my medical care than I can afford**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**7. I have easy access to the medical specialists I need**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**8. Doctors act too business like and impersonal towards me**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**9. My doctors treat me in a very friendly and courteous manner**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**10. Doctors sometimes ignore what I tell them**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**11. I have some doubts about about the ability of doctors who treat me**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**12. Doctors usually spend plenty of time with me**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**13. I find it hard to get an appointment for medical care right away**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**14. I am able to get medical care whenever I need it**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**15. Cost of registration, medical services are nominal**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**16. Patients seating arrangements, cleanliness in hospital is good**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**17. Doctors politeness and their consistency**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**18. External environment satisfaction (canteen's service, canteen's prices, information office, security, parking)**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

## **V. Research Methodology**

### **Sampling Design**

#### **Methods of sampling**

The selected respondents constitute what is technically called a sample and selection process is called sampling technique. The survey so conducted is known as sampling survey.

#### **Sampling survey**

Sampling survey is the process of obtaining the information about entire population by examines only a part of it for the purpose of the study. The researcher has used simple random samplings.

**Sample size**

Random sampling technique was adapted to select sample patients. A Leading Hospital in Chennai was selected for the purpose of the study. The total numbers of questionnaire distributed were 120 of which 90 were received and fully filled.

Number of respondents	Received	Fully filled
120	110	100

**Hypotheses Developed**

A hypothesis is a tentative generalization, the validity of which has got to be tested. After conducting an extensive review of literature, the following hypotheses in the null form are developed in line with the research problem and objectives. Based on the research questions, the following hypotheses were formulated for the present study. To facilitate data analysis the main hypothesis has been split into sub-hypotheses wherever required.

- H<sub>0</sub>1: There is no significant association between patient’s satisfaction and the knowledge of doctors.
- H<sub>0</sub>2: There is no significant association between patient’s satisfaction and hospital Facilities.
- H<sub>0</sub>3: There is no significant difference among the patients with their satisfaction level towards different age group.
- H<sub>0</sub>4: There is no significant difference among the patients with their satisfaction level with respect to technicians and environment facilities.
- H<sub>0</sub>5: There is no significant difference in doctor’s behavior, knowledge and other facilities which serves as a predictor in explaining patient’s satisfaction.
- H<sub>0</sub>6: Healthcare provisions are not most likely to influence satisfaction with care and willingness to recommend hospital services to others.

**Determination Of Sample Size**

One of the strategies in the determination of the sample size is to assume that the probability associated with the occurrence of an event is the prime interest in the study, which is 0.5, sample size calculation is concerned with how much data is required to make a correct decision on particular research. If more data are collected, then the decision will be more accurate and there will be less error. Using this procedure as the constraint the sample size for the study was determined.

Sample size is determined by the formula  $n = (Z * S / E)^2$ ,  
 $n = (1.00 * 0.50 / 0.05)^2$ ,  $n = 100$

Where Z is the standardized value corresponds to a confidence level at 95 percent that is equal to 1.00, S is the estimation of population standard deviation or sample standard deviation, which is equal to 0.50 and E denote the acceptance level of sampling error, which is equal to 0.05 that is 5 percent level of significance. 50 samples were taken for pilot study. A sample size of 100 respondents was considered ideal for this study.

**VI. Design Of Survey Instrument**

**Instrument Used**

**A Study To Find The Level Of Satisfaction Of Patients In Hospitals**

Comprise of 18 items and adopted a 5-point rating scale anchored from ‘strongly disagree’ to ‘strongly agree’. The responses to items are scored from 1 to 5. All the items given by the respondents were noted on a five-point Likert scale, where “1” implied “strongly disagree,” “5” implied “strongly agree,” and “3” represented the neutral state of “uncertain” except the questions on demographics. Changes done in the questionnaire after the discussion with hospital senior doctors question.no.12 Doctors usually spend more time in answering my doubts with me question .no.15 and question no .6 Cost of registration, medical services are nominal, I pay for more of my medical care than I can afford question no 7. Doctors act too business like and impersonal towards me was advised to get deleted from the questionnaire.

The accepted questionnaire used for the study:

**The questionnaires included in this study:**

**1. Doctors and nurses are good enough in explaining the reason for medical test**

Strongly Agree    Agree    Uncertain    Disagree    Strongly Disagree

**2. Hospital has complete facilities needed to provide complete medical care**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**3. The Medical care I have been receiving is just above perfect**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**4. I feel confident that I can get the medical care I need without being set back financially**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**5. In medical care this hospital is careful to check everything when treating and examining**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**6. I have easy access to the medical specialists I need**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**7. My doctors treat me in a very friendly and courteous manner**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**8. Doctors sometimes ignore what I tell them**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**9. I have some doubts about the ability of doctors who treat me**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**10. Doctors usually spend more time in answering my doubts with me**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**11. I find it hard to get an appointment for medical care right away**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**12. I am able to get medical care whenever I need it**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**13. Patients seating arrangements, cleanliness in the hospital is good**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**14. Doctors politeness and their consistency**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

**15. External environment satisfaction (canteen's service, canteen's prices, information office, security, parking)**

Strongly Agree   Agree   Uncertain   Disagree   Strongly Disagree

## VII. Stastical Techniques

**Reliability Testing:**

Reliability analysis allows studying the properties of measurement scales and the items that compose the scales. The Reliability Analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale. Intra-class correlation coefficients are used to compute inter-rater reliability estimates.

**Validity:**

Validity means how sound the research is. According to Shuttleworth (2008) “validity encompasses the entire experimental concept and establishes whether the results obtained meet all of the requirements of the scientific research method.” Validity is divided into two parts, internal validity and external validity. Internal validity means the research itself, the execution of the study. External validity again means how well the research findings can be generalized and applied to a larger group of people. (Shuttleworth 2008.)

Internal validity deals with things such as how an experimental design is structured and encompasses all of the steps of the scientific research method. Even though the research results might be great, a poorly planned and designed research weakens the trustworthiness of the research itself. (Shuttleworth 2008.)

External validity means the process of examining the results and questioning whether there are any other possible causal relationships. Shuttleworth (2008) also suggests in his article that randomization and control groups reduce external validity problems.

The reliability of the questionnaire was ascertained by finding the internal consistency of the measures by using the Cronbach's coefficient alpha. The internal consistency reliabilities were assessed by computing Cronbach's alpha of the items that together cover the specific (new and underlying) factor. As shown in Table 1.00 the value is 0.786, indicating a high measure of internal consistency and an overall good reliability (Nunnally, 1978). Construct validity determines the extent to which a scale measures a variable of interest and can be assessed by factor analysis. Cronbach's coefficient alpha of reliability had been calculated for the full study

Cronbach's co-efficient alpha of reliability for study

**Table: 4:1 RELIABILITY ANALYSIS**

Name of Scale	No of items	Alpha values
Level of Satisfaction of Patients	15	0.786

Source: Primary Data

**Pilot Study:** To establish the face validity of the questionnaire the instrument was examined by a panel of experts comprising practitioners, and HR managers. The expert panel provided suggestions and approved the final instrument. The research instrument was designed to collect information on level of satisfaction of the patients. Pilot testing was done to check its adaptability. A preliminary study was conducted prior to the main study. The data collected through the preliminary study were statically analyzed to establish the reliability and validity. After developing the scales for this research study, it was incorporated into the survey instrument. The questionnaire was sent to senior doctors to elicit their comments or opinion on the content. Based on the recommendations given by the experts the questionnaire was drafted. The survey instrument was pre-tested before it was used for the main study.

**Statistical Test Employed**

A combination of bivariate multivariate and techniques were employed to analyze the data to test the hypotheses put forward. The choice of specific technique and the sequence of analytical procedures were governed by the research design and the requirements of the statistical tools for analyzing the relationships among the variables as hypothesized. In this study, statistical techniques such as factor analysis, confirmatory factor analysis, t- Test, correlation analysis, multiple regression, analysis of variance were used.

**VIII. Data Analysis**

**Data Analysis And Interpretation**

Data analysis is a process of gathering, transforming data and suggesting conclusions. It has multiple facets and approaches, encompassing diverse techniques under a variety of names, in different business, science and social science domains. Analysis means the computation of certain indices or measures along with searching for patterns of relationship that exist among data groups. It helps in testing the hypothesis for drawing inference. So, data analysis is a crucial event in any research project because the inferences are made only based on the result of the analysis.

**Profile Of Respondents**

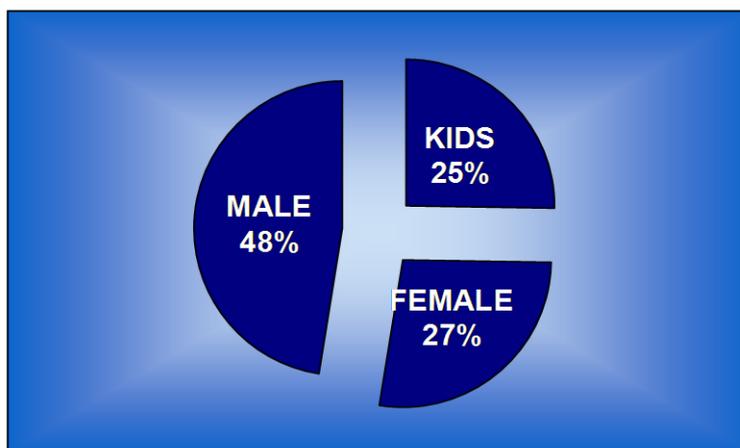
**Table: 4:2 Classification Of The Patients**

AGE IN YEARS	NO. OF RESPONDENTS
KIDS	25
FEMALE	27
MALE	47
Total	100

Source: Primary Data

The above Table 4:1 gives the patients classification. It infers that among 100 patients, 25 were kids, 27 were female and 47 of them were male The distribution of the respondents is given in the form of pie chart (Figure ).

**Figure 4.1.1 Pie Chart Representation For Age**



**Table 4:3 Gender Wise Patients Satisfaction With Respect To The Doctors Treatment**

Gender	Frequency
Male	39
Female	61
Total	100

Source: Primary Data

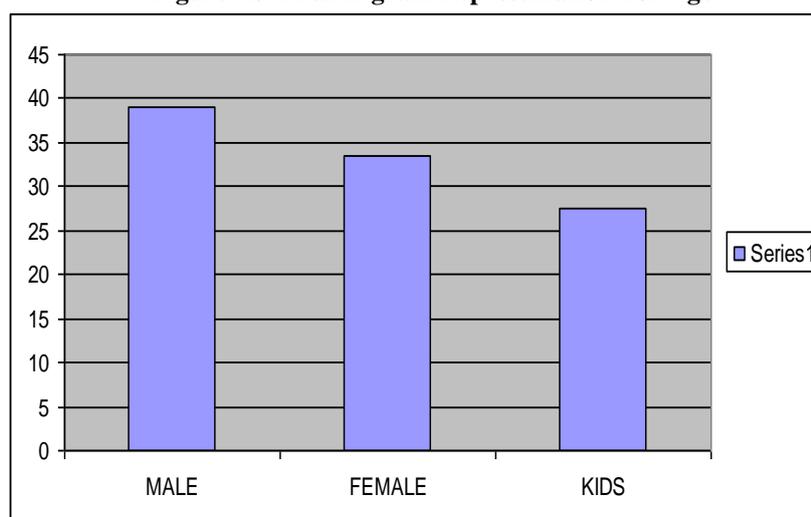
It is evident from the above Table 4:2, out of 100 patients, 39 of the male patients responded positively and 61 percent of the females and females with kids responded that they were happy with the treatment facilities in the hospital.

**Table 4:4 Satisfaction Of The Facilities In The Hospital**

Gender	Frequency
Male	39
Female	33.5
Kids	27.5
Total	100

Source: Primary Data

**Figure 4.3.1 Bar Digram Representation For Age**



Source: Primary Data

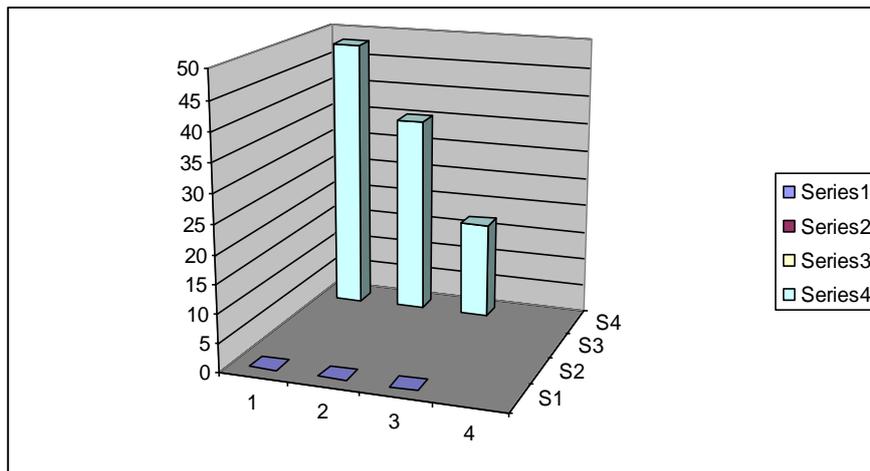
It is evident from the above Table 4:3, out of 100 patients, 29 of the male patients, responded positively and 61 percent of the females and females with kids responded that they were happy with the treatment facilities in the hospital.

**Table 4:5 Patients Satisfaction With Reference To External Environment**

PATIENTS SATISFACTION	FREQUENCY
SATISFIED	48
UNSATISFIED	35
NEITHER SATISFIED NOR SATISFIED	17
Total	100

Source: Primary Data

**Figure 4.5.1 Bar Digram Representation**



Source: Primary Data

**Reliability Analysis:**

**TABLE 4:5**

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.719	0.740	18

Source: (Primary data)

**Inference:**

The reliability of the determinants/factors is ascertained by finding the inter coincidence of using cronbach's coefficient alpha a shown the values where above 0.5 indicating high measure of internal coincidence of overall good reliability (Nunnaly,1978) construct validity extent to which a scale measures a variable of interest and can be assist by factor analysis. The higher the alpha value obtained the high internal coincidence to the scale used in the study.

**Factor Analysis:**

**Table 4:7**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.760
Bartlett's Test of Sphericity	Approx. Chi-Square	1013.852
	Df	276
	Sig.	0.000

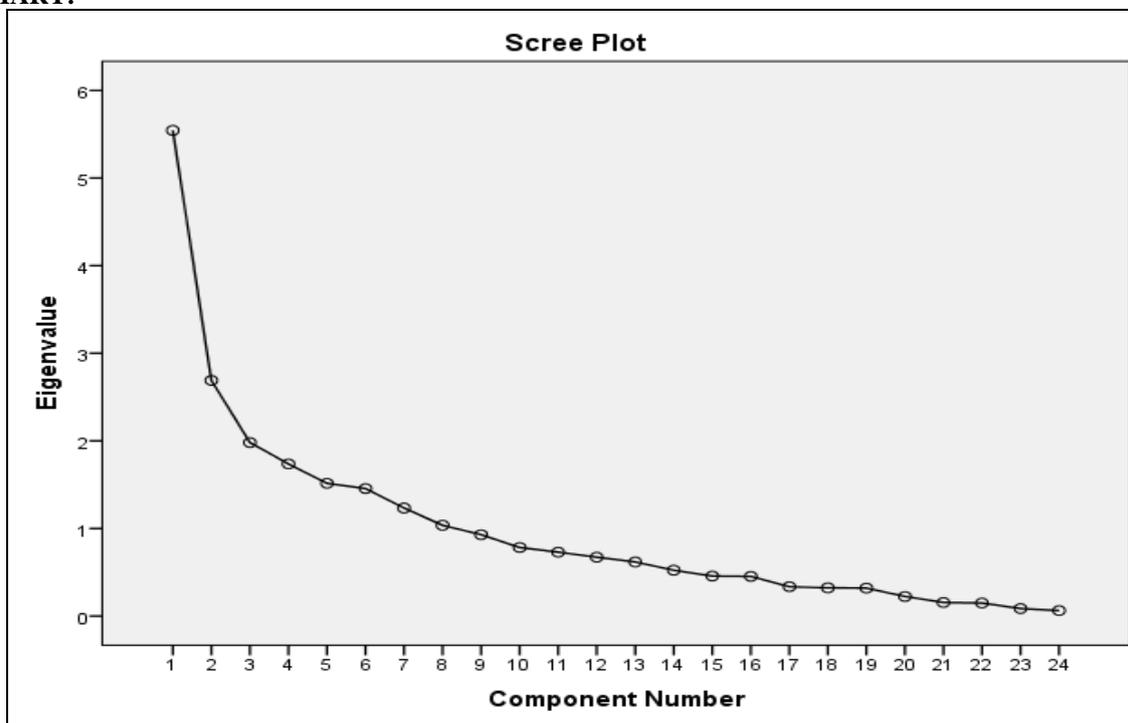
Source: (Primary data)

**Table 4.8 Communalities**

Particulars	Extraction
Doctors and nurses are good enough in explaining the reason for medical test	0.724
Hospital has complete facilities needed to provide complete medical care	0.819
The Medical care I have been receiving is just above perfect	0.880
I feel confident that I can get the medical care I need without being set back financially	0.504
In medical care in hospitals are careful to check everything when treating and examining	0.584
I have easy access to the medical specialists I need	0.759
My doctors treat me in a very friendly and courteous manner	0.570
Doctors sometimes ignore what I tell them	0.845
I have some doubts about the ability of doctors who treat me	0.866

Doctors usually spend more time in answering my doubts with me	0.828
I find it hard to get an appointment for medical care right away	0.628
I am able to get medical care whenever I need it	0.724
Patients seating arrangements, cleanliness in hospital is good	0.819
Doctors politeness and their consistency	0.280
External environment satisfaction (canteen's service, canteen's prices, information office, security, parking)	0.504

**CHART:**



Factor analysis was conducted by using principal compound method with varimax rotation the Bartlett's Test of Sphericity (P=0.000) indicates that there is significant correlation among some of the variables shown in Kaiser-Meyer-Olkin (KOM) measures of sampling adequacy 4 factors where yield after rotation facts yield with more than one reviling the loading vary from 0.504 to 0.880.

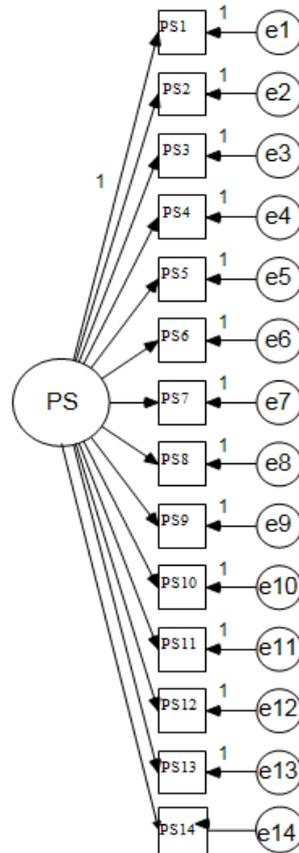
**IX. Confirmatory Factor Analysis For Patience Satisfaction**

**Table 4: 9 Results Of Confirmatory Factor**

PATIENCE SATISFACTION INDICES	Value
Goodness of fit index (GFI)	0.929
Adjusted Goodness of fit index (AGFI)	0.900
Bentler and Bonett's (1980) (NFI)	0.837
RFI	0.805
Parsimonious (PGFI)	0.663

All the 14 items measuring patience satisfaction were entered for confirmatory factor analysis and tested for a one factor model. The results indicated that all the items loaded significantly on the common factor. The reliability of these factors through internal consistency method was satisfactory.

The Table 4:4 provides the final results of the confirmatory factor analysis (CFA) for patience satisfaction. Goodness of the fit statistics indicates the values of RFI (0.805), AGFI (0.900), NFI (0.837), GFI (0.929), and PGFI (0.663). Thus, the RFI, AGFI GFI, NFI, and PGFI figures suggest the model for knowledge sharing fits the data reasonably in the acceptable range. Thus all items loaded significantly on the single underlying common factor and supported the postulated model.



**Chi – Square Test**

H<sub>0</sub> 1: There is no significant association between patient’s satisfaction and the knowledge of doctors.

**Table 4.10 Chi-square test for between patient’s satisfaction and the knowledge of doctors**

Patient’s satisfaction	Knowledge of doctors.				Chi Square Value	P Value
	Low	Average	High	Row Total		
Low	40 (43.5) [54.1]	52 (56.5) [14.1]	-	92 (17.8)	208.52	0.000**
Average	32 (9.8) [43.2]	272 (83.4) [73.5]	22 (6.7) [30.6]	326 (63.2)		
High	2 (2.0) [2.7]	46 (46.9) [12.4]	50 (51.0) [69.4]	98 (19.0)		
Column Total	74 [14.3]	370 [71.7]	72 [14.0]	516 [100.00]		

**Significant at 0.01 levels\*\***

**Significant at 0.05 levels\*** and the knowledge of doctors.

**Note:** The Value within ( ) refers to Row percentage.

The Value within [ ] refer to Column percentage

The table 4.9 indicates that the low level of patient’s satisfaction and low level of knowledge of doctors were found to be 43.5 percent, similarly high level of patient’s satisfaction to high of knowledge of doctors is 51.0 percent. Since P value is less than 0.01 and chi-square value is 208.52. There is significant association between patient’s satisfaction and knowledge of doctors. Therefore, the hypothesis is rejected at 1 percent level of significance.

H<sub>0</sub> 2: There is no significant association between patient’s satisfaction and hospital facilities.

**Table 4.11 Chi-square test for patient’s satisfaction and hospital facilities.**

Patient’s satisfaction	Hospital facilities					Chi Square Value	P Value
	Low	Average	High	Row Total			
Low	26 (28.3) [33.3]	62 (37.4) [17.6]	4 (4.3) [4.7]	92 (17.8)		171.31	0.000**
Average	52 (16.0) [66.7]	250 (76.7) [71.0]	24 (7.4) [27.9]	326 (63.2)			
High	2 (2.0) [2.7]	46 (46.9) [12.4]	50 (51.0) [69.4]	98 (19.0)			
Column Total	78 [15.1]	352 [68.2]	86 [16.7]	516 [100.00]			

**Significant at 0.01 levels\*\***

**Significant at 0.05 levels\***

**Note:** The Value within ( ) refers to Row percentage.

The Value within [ ] refer to Column percentage

The table 4.11 indicates that the low level of patients satisfaction and low level of hospital facilities is found to be 28.3 percent, similarly high level of patients satisfaction and high level of hospital facilities is 51.0 percent. Chi-square value is 171.31. Since P value is less than 0.01, the hypothesis is rejected at 1 percent level of significance.

### X. Analysis Of Variance

**One-Way Classification:**

**Opinion Of The Satisfaction Level Towards Different Age Group**

**Null Hypothesis:**

H<sub>0</sub> 3: There is no significant difference among the patients with their satisfaction level towards different age group.

### XI. Alternative Hypothesis

H<sub>3</sub>: There exist a significant difference among the patients with their satisfaction level towards different age group.

**Anova Table 4:12**

Source of Variable	Sum of Squares	Degree of freedom	Mean Sum of Squares	F Ratio
Between groups	5.3853	3	1.7951	
Within Groups	109.978	97	1.1338	1.1874

F Calculated > F tabulated.

Hence H<sub>1</sub> is accepted

### XII. Result

H<sub>1</sub> is accepted at 5% level of significance. So there exist significance difference among the patients with their satisfaction level towards different age group.

### Test Of Significance

**t –Test**

**Title: Patience Satisfaction Regarding The Doctors, Technicians, Environment And Facilities**

**Null Hypothesis:**

H<sub>0</sub> 4: There is no significant difference among the patients with their satisfaction level with respect to technicians and environment facilities.

**Alternative Hypothesis:**

H 4: There exist a significant difference among the patients with their satisfaction level with respect to technicians and environment facilities.

**Table 4:13**

t-test for variable	Group	Mean	Std Deviation	t-value	t-Prob
Patients Satisfaction towards technicians and environment	MALE	1.912	1.069	11.56	0.000
	FEMALE	4.2973	1.431		

**Interpretation:**

**t calculated < t tabulated we accept H1**

Result: There exist a significant difference among the patients with their satisfaction level with respect to technicians and environment facilities.

**XIII. Multiple Regression Analysis**

The Multiple regression procedure is conducted to understand the relationship between several predictors. Kerlinger and Lee (2000) defined that multiple regression is a statistical method that is related to dependent variable in a linear combination of one or more independent variables. They further explained that this procedure can help researchers determine how much each independent variable explains or relates to the dependent variable.

An important output of multiple regressions is R<sup>2</sup>. The significant of R<sup>2</sup> is determined by the F-test, which is the same as testing the significance of the regression model. If the probability of obtaining a large value is F less than 0.001, then the model is considered significantly better than expected. It is concluded that there is a linear relationship between the dependent variable and the independent variable. Durbin-Watson values should not be less than 1 or greater than 3 respectively.

Stepwise multiple regression analysis is the most sophisticated method. Each variable is entered in sequence and its value assessed. The beta values measure how strongly each predictor variable influences the criterion variable. The beta regression coefficient is computed by assessing the strength of the relationship between each predictor variable to the criterion variable. The standardized beta coefficient gives the contribution of each variable in the model.

A step-wise multiple regression analysis was conducted to access the satisfaction of patients. The results of the multiple regression analysis are tabulated.

**H<sub>0</sub> 5:** There is no significant difference in doctor’s behavior, knowledge and other facilities which serves as a predictor in explaining patient’s satisfaction.

**Table 4:14 Step-wise multiple regression analysis**

Variables Entered	R	R2	Adjusted R2	Std. Error of the Estimate	Change Statistics		
					R2 change	F change	Sig F Change
PS	0.58	0.34	0.33	0.57	0.33	258.85	0.000**

**Dubrin-Watson Value: 1.97,**

**Significant at 0.01 levels\*\***

**Significant at 0.05 levels\***

**Dependent Variable: Doctors behaviour**

Stepwise multiple regression was performed taking patients satisfaction as independent variable and in doctor’s behavior, knowledge and other facilities as dependent variable. The model indicated a strong predictor of the dependent variable with multiple determination factor R square (Goodness of fit) value 0.34. The standardized beta coefficient was 58 percent. A large value indicates that a unit change in doctor’s behavior, knowledge and other facilities has a large effect on the patient’s satisfaction.

**Table 4:15 Coefficients and Collinearity Statistics**

Model	Constructs	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.89	0.21	-	9.13	0.000**	-	-
	PS	0.63	0.04	0.58	16.09	0.000**	1.00	1.00

**Significant at 0.01 levels\*\***

Significant at 0.05 levels\*

**Dependent Variable: Doctor’s behavior, knowledge and other facilities**

From the regression analysis, regression equation was derived

$$Y = \alpha + x_1 \text{ Patients satisfaction} + \epsilon$$

$$Y = 1.88 + 0.63 (x_1) + \epsilon$$

Regression equation of patient’s satisfaction with doctor’s behavior, knowledge and other facilities is positive. The collinearity statistics revealed the absence of multicollinearity between independent variable. Relative importance of each variable is patient’s satisfaction (1.00) which made the strongest contribution in exploring the dependent variable. The beta scores signified the positive relationship, which indicated patient’s satisfaction explaining 58 percent of total variance of doctor’s behavior, knowledge and other facilities.

The results indicated that F-value of the regression is 258.84 (p<0.001). It means that the explanatory power of patient’s satisfaction to this regression equation was at a higher level. The relationship is significant. Hence, the hypothesis is rejected.

**XIV. Correlation**

**Table 4:16 Correlation Co-efficient for Patient Satisfaction:**

Correlations					
		Doctors Knowledge	Patients care	Facilities	Cost
Pearson Correlation	Doctors Knowledge	1.000	0.672	0.335	0.182
	Patients care	0.672	1.000	0.438	0.090
	Facilities	0.335	0.438	1.000	0.050
	Cost	0.182	0.090	0.050	1.000
Sig. (1-tailed)	Doctors Knowledge	.	0.000	0.001	0.043
	Patients care	0.000	0.000	0.000	0.198
	Facilities	0.001	0.000	0.000	0.321
	Cost	0.043	0.198	0.321	0.000
N	Doctors Knowledge	100	100	100	100
	Patients care	100	100	100	100
	Facilities	100	100	100	100
	Cost	100	100	100	100

Source: (Primary data)

Correlation is significant at 0.01 level two tailed

Correlation is significant at 0.05 level two tailed

**Inference:**

The above table shows the inter correlation for all the constructs reveals that doctor’s consulting, Patients care, Facilities and cost had positive correction which is statistic significant at 0.01.

H6: Healthcare provisions are most likely to influence satisfaction with care and willingness to recommend hospital services to others.

H<sub>0</sub>6: Healthcare provisions are not most likely to influence satisfaction with care and willingness to recommend hospital services to others.

**Table 4:17 Distribution of Responses from the Respondents Regarding Clinical Care**

CLINICAL CARE		Percentage of Response
Approach by the Doctor	Satisfactory	78
	Unsatisfactory	22
Communication by the Doctor	Good	35
	Moderate	53
	Poor	12
Explanations about the Disease to the Patients	Satisfactory	64
	Unsatisfactory	36
Cinical Care	Satisfactory	71
	Unsatisfactory	29
Opinion about the Need of Investigation Assess by the patient	Necessary	57
	Unnecessary	43
Interpretation of Investigation Report by the	Satisfactory	49
	Unsatisfactory	51

Doctor to the Patient		
Nature of Prescription	Simple and Easy	39
	Complex and Difficult	61
Instruction for Taking Medication by Pharmacist	Complex and Difficult	17
	Satisfactory	41
	Unsatisfactory	42

**Table 4:18 Cost of Services**

Cost of Registration	Satisfactory	21
	Un Satisfactory	79
Cost of Investigation	Low	25
	Moderate	31
	High	44
Cost of Medicine	Satisfactory	37
	Un Satisfactory	63

**Findings:**

Almost 90% of respondents indicated that they were satisfied with their period of inpatient care.

Age and overall self-assessed health were only weakly associated with satisfaction.

The survey indicated that the other determinants of patient satisfaction were physical comfort, emotional support, and respect for patient preferences.

55% of respondents who rated their inpatient episode as "excellent" indicated problems on 10% of the issues measured on the Picker questionnaire.

There is significant association between patient's satisfaction and knowledge of doctors.

There is no significant association between patient's satisfaction and hospital facilities.

There exists significance difference among the patients with their satisfaction level towards different age group. There exist a significant difference among the patients with their satisfaction level with respect to technicians and environment facilities.

There is no significant difference in doctor's behavior, knowledge and other facilities which serves as a predictor in explaining patient's satisfaction.

**XV. Conclusion**

It's time for the industry to raise the bar—and it needs to get a move on.

In the era of globalization, competition has become a key issue in all sorts of industry as well as service sectors. Literature survey suggests that patient satisfaction and perceived service quality both should be considered together for the stability of a health care organization in a competitive environment. Researchers have suggested different models and methods of measuring patient satisfaction considering service quality as one of the antecedents. The health care system depends on availability, affordability, efficiency, feasibility and other factor. Patient satisfaction is considered one of the important quality indicator(s) at the health care institutes. Satisfaction is achieved when the patients' perception of the quality of care and services that they receive in healthcare setting has been positive, satisfying, and meets their expectations.

Pricewaterhouse Coopers (2007), in the service sector, the health care industry, one of India's largest sectors in terms of revenue and employment, is growing rapidly. In India, the service quality of health care is miserable and in general, the health outcome is far from satisfactory (Bajpai and Goyel, 2004). Therefore, government of India has adopted a policy of health care reform having two basic objectives to achieve health securities for all and to provide quality health facilities for all within every district in India (John, 2010).

In the health care sector, customer satisfaction is also an important issue as in other service sectors (Shabbir et.al. 2010). A health care organization can achieve patient satisfaction by providing quality services; keeping in view patients' expectation and continuous improvement in the health care service ( Zineldin, 2006).

The finding of this study suggested that the following measures can be taken by policy makers and administrators to increase the level of satisfaction at health facilities. Training oriented programmes for the service providers and supporting staff can be carried out to increase their interpersonal qualities and managerial skills so that health facility can become more user friendly. Need to improve and increase the seating capacity in the hospital. The study highlighted that overall the patient satisfaction was good regarding the quality of health care services except in some era like waiting time, availability of specialists, and communication of doctors with patients and cost of investigation. The waiting period of patients for the time of arrival to the time of examination by the doctor must be reduced as far as possible by making the hospital procedure simpler and by guiding them with a signboard for different departments. The cost of investigation can be decreased to a level, so that the poor patients can also afford it by liasoning with private laboratories.

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