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Editorial Note

This issue of SAJMR is dedicated to the fond memory of Late Prof. Dr. A. D. Shinde a renowned Chartered Accountant and Founder of SIBER Trust. It was his vision and untiring efforts that has led to the creation of the educational empire in Southern Maharashtra. Number of students from all over the country and especially students of rural areas have been immensely benefited from the educational programs initiated by Dr. A. D. Shinde. In his memory on the first anniversary, Dr. C. Rangarajan, Chairman, Economic Advisory Council to the Prime Minister of India delivered the first memorial lecture. We are happy to publish this memorial lecture as a lead article in the current issue.

Keeping in view the interdisciplinary approach of the journal the articles ranging from the fields of economics, finance, marketing and health care services have been selected for the present issue. All these articles are comprehensive in their coverage and use latest statistical tools for analyzing both the primary and the secondary data collected. These statistical techniques include factor analysis, reliability test and techniques of hypothesis testing and others. We are sure this issue of SAJMR would provide an excellent reference material both for the researchers and students from different disciplines.

As a continuing feature of the journal we have incorporated a Case Study for the benefit of the readers. This is followed by a book review on Future of HRM. In all the present issue covers wide range of issues from management area along with a case study. It is expected that these articles will provide new insights to readers and thereby encourage them for taking up further research on these lines.

Dr. T. V. G. Sarma
Editor

FACTORS AFFECTING THE SATISFACTION OF PATIENTS WITH SPACIAL REFERENCE TO SUPER SPECIALITY HOSPITALS

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Abstract : The objective of this study is to explore the factors that determine the satisfaction of people with the health care system above and beyond their experience as patients. The data were obtained from 250 patients. Patients' satisfaction was analyzed by factor analysis method. Factors are ranked according to the proportion of variance explained. The analysis identifies seven key factors namely care, accessibility, fee structure, availability, cleanness, effective work environment and friendly atmosphere. Chi square test has been applied to find out the relationship of satisfaction with the personal characteristics of the patients. The findings of Chi square test shows that gender, age and occupation of the patients have not shown any significant association with the satisfaction of patients.

Key Words : patients' satisfaction, availability, care, accessibility.

1. Introduction

The success or failure of any hospital is largely depends on the satisfaction met by the patients on various services offered. Patients' satisfaction is a combination of psychological, physiological and other health care related factors that make a patient to feel happy. Patient satisfaction has been considered as a state where patients express their feelings, prepares to attend for the same hospital more number of times, accept the services and promote the image and goodwill of the hospital more happily. Satisfaction of patients is an emotion, a feeling and a matter of perception. It arises from the patients' appraisal of experience in hospital services; it involves likes and dislikes which are internal and external to the patients.

With the various changes and developments that take place in health care related environment, patients place more importance on the quality of services offered than before. In recent days patients emphasize not only the environment in the hospitals, but also various services offered in the hospitals. Therefore understanding patients' satisfaction is becoming more important.

2. Significance of the Study

Patient satisfaction is one of the important factors for the survival of any hospital. Patients' satisfaction with reference to hospital environment is the feeling with which patients as individuals and groups respond to the services received. It is a state of healthy balance in the hospital in which doctors and other service providers give their respective contributions to achieve the goals set by the hospital management. In recent days, patients put more emphasis on the quality of services than before, as a result the competition developed among the hospitals. The competition was developed in terms of attracting large number of patients as their customers, to fill up the beds and to retain them by offering various services; as a result, patients' satisfaction becomes an important issue for hospital administration. When patients have high degree of satisfaction on the services received, they tend to give positive response about the hospital.

Though every organization has its own policies to accomplish the objectives, continuous updating and monitoring of these polices is essential to keep the pace with the change in time and to avoid any dissatisfaction of patients. Usually, patients worry about their outcome that can even affect the way they treat the hospital and how they communicate with their friends and relatives. The study is based on various factors which are directly and indirectly related to hospital environment. The need for the study is to ascertain various factors that influence satisfaction of patients. The present study will help the managements of hospitals, to develop more appropriate strategies and these could be incorporated into a well designed set of hospital

administration policies for better satisfaction of the patients.

3. Review of Literature

Across the United States of America and Europe, consumer satisfaction is playing an increasingly important role in quality of care reforms and health-care delivery more generally. However, consumer satisfaction studies are challenged by the lack of a universally accepted definition or measure (Crow, et al 2002). The absence of a solid conceptual basis and consistent measurement tool for consumer satisfaction has led, over the past few years, to a proliferation of surveys that focus exclusively on patient experience, i.e. aspects of the care experience such as waiting times, the quality of basic amenities, and communication with health-care providers, all of which help identify tangible priorities for quality improvement. The increasing importance of patient experience and the sustained interest in comparing people's satisfaction with the health system across different countries and time periods suggests the need to characterize the factors affecting the satisfaction. Studies of patient satisfaction towards health services, health personnel and resources constitute important elements in the extent to which health services received meet consumers' expectations and needs. They can be used as a means to assess the quality of health care provided. They also help providers to better understand consumers' views (Doghaither et al 2000). Patient satisfaction studies started to appear in the literature about half a century ago. With the growing awareness of the patient as an evaluator of healthcare, more sophisticated and specialized multidimensional scales for measurement of satisfaction were suggested in the literature.

Satisfaction can be defined as the extent of an individual's experience compared with his or her expectations (Pascoe, 1983). Patients' satisfaction is related to the extent to which general health care needs and condition-specific needs are met. Evaluating to what extent patients are satisfied with health services is clinically relevant, as satisfied patients are more likely to comply with treatment (Guldvog, 1999), take an active role in their own care (Donabedian, 1988), to continue using medical care services and stay within a health provider and maintain with a specific system(Marquis,1983). Satisfaction is one of the core outcome measures for health care. It is intuitively more appealing than measures of health care effectiveness or efficiency that are more difficult to understand. Satisfaction with health care is a measure with a long history in the social sciences. Most current research is less interested in correlations between patients' characteristics and satisfaction and more focused on improving the quality of care and service delivered to patients and health plan members. Research on health system satisfaction, which is largely comparative, has identified ways to improve health, reduce costs and implement reform (Blendon, et al, 2003)

Satisfaction of patients appears to be a major device in order to take important decisions by the hospital managements. According to Donabedian (1988), any health care provider must decide its basic goals and objectives by offering various patient support services. Therefore, the managements of the health care centers, as a matter of fact, take satisfaction of patients into account as a main goal of strategies. . Marquis et al (1983) and Salam (1998), in their studies also opined to change the attitude of management towards providing relevant, purposeful and meaningful services for the patients and for the society as a whole. Wilkin et al (1992), in their study opine that the measurement of patients' satisfaction is a common component of many evaluations. It is a holly subjective assessment of the quality of health care and, as such, is not a measure of final outcome. Evidence has suggested that care, which is less than satisfactory to the patients, is also less effective, because dissatisfaction is associated with noncompliance with treatment instructions, delay in seeking further care and poor understanding and retention of medical information. The substance of literature is that most of the studies identified factors responsible for patient satisfaction in various health care centers conducted in foreign locations giving least scope for the Indian context. Hence, the present study may be considered as one among many studies, which will help the health care providers in better understanding about the

various factors that influence the satisfaction of patients and also helps in framing the strategies for effective management of hospitals. Thus the aim of this study was mainly exploratory in nature; with a view to better understand the factors that were associated with patients' satisfaction,

4. Objectives of the Study

The purpose of this study is to investigate and explore the various factors that influence the satisfaction of patients. The following are the research objectives formulated to guide the study.

i. To find out the factors affecting the satisfaction of patients, and

ii. To investigate the relationship of satisfaction with personal variables of patients.

5. Hypothesis

This study infers that there is no difference between the satisfaction and gender as well as age and occupation of patients. Against this background, the statement of hypothesis is as follows.

$H_0$1: There is no significant association between level of satisfaction and gender of the respondents.

$H_0$2: There is no significant association between level of satisfaction and age of the respondents.

$H_0$3: There is no significant association between level of satisfaction and occupation of the respondents.

6. Methodology

6.1 Instrument Development

The instrument used in this study consists of two parts. The first part deals with the demographic profile such as gender, age, education, income levels and occupation of the respondents. Part two deals with a structured questionnaire prepared for exploring the perceptions of the patients towards satisfaction. It consists of 22 items; all of them were selected from published patient satisfaction questionnaires (Marsh 1999 and Gadallah et al 2003). Each of which is measured on a four point Likert's scale in which, 1 indicated "strongly disagree", 2 indicated "disagree",3 indicated "agree", and 4 indicated 'strongly agree". Contents and validity of the statements were established by experts consisting of important persons related to hospital administration. Each of the experts on the panel was asked to verify the instrument for clarity, wording, overall appearance and meaning in addition to content and validity. The instrument was pilot tested with a group of patients selected from different hospitals, not included in the sample. It was found that all items of the questionnaire were clear, and the average time required to complete it was between 10 - 12 minutes.

6.2 Data Collection

Personnel interview method was adopted to collect data from the respondents. Data were collected from various categories of patients getting treatment in the super specialty hospitals located in and around Nellore, Chittore and Krishna districts of Andhra Pradesh in India. A total of 250 respondents were selected randomly from 15 super specialty hospitals, and questionnaires were delivered to them. The data were collected systematically during the period between April 2011 and May 2011.

6.3 Analysis of Data

The primary data collected have been sorted, classified and tabulated in a format and analyzed by using statistical package for social sciences (SPSS16.0). Appropriate statistical procedures like Factor analysis, Chi-square tests and averages have been used for analysis and inference. The factor analysis allows for defining the factors affecting the perceptions of patients towards services received and Chi-square test is applied to find the association between perceptions and personal characteristics of the patients.

7. Results and Analysis

7.1 Profile of the Respondents

Of those responding to the questionnaire, it was found that 60 percent (150) were male while 40 percent (100) were female (Table 1). The table further shows that the respondents selected for the study are male dominated. Out of which 12.8 percent (32) of the respondents were below 25 years of age, 14.8 percent (37) were in the age group of 25 to 35 years, 28 percent (70) were in the age group of 35 to 45 years, 20.08 percent

Table 1 Profile of the patients

1.Gender	No of Respondents	Percentage
a) Male	150	60.0
b) Female	100	40.0
Total	**250**	**100**
2.Age		
Less than 25 Years	32	12.8
25-35 Years	37	14.8
35-45 Years	70	28.0
45 -55Years	52	20.8
Above 55Years	59	23.6
Total	**250**	**100**
3.Education		
SSC	40	16.0
HSC	46	18.4
Graduation	65	26.0
Post Graduation	29	11.6
Illiterate	70	28.0
Total	**250**	**100**
4.Occupation		
House hold	37	14.8
Farmer	43	17.2
Business	65	26.0
Employee	62	24.8
Labour	43	17.2
To tal	**250**	**100**
5.Income		
Less than Rs. 10,000	32	12.8
Rs. 10,000 –Rs.30,000	45	18.0
Rs. 30,000 –Rs.50,000	52	20.8
Rs. 50,000 –Rs.70,000	68	27.2
Above Rs.70,000	53	21.2
Total	**250**	**100**

(52) respondents were with above 45 to 55 years of age and the remaining 23.6 percent (59) were above 55 years of age. An analysis of the age of the respondents reveals that majority of the respondents were in the age group of 35 to 45 years. With respect to education, 16 percent (40) of the patients belongs to SSC, 18.4 percent (46), belongs to HSC, 26 percent (65) belongs to graduation, 11.6 percent (29) belongs to post graduation and the remaining 28 percent (70) belongs to illiterate category. With respect to occupation of the patients 17.2 percent each (43) belongs to labour and farmers, 26.0 percent (65) belongs to business, 24.8 percent (62) belongs to employees and the remaining 14.8 percent (37) belongs to households. With respect to income levels of the patients selected for the study, 12.8 percent (32) belongs to less than Rs.10, 000, 18.0 percent (45) belongs to Rs.10, 000 to Rs.30, 000, 20.8 percent (52) belongs to Rs.30, 000 to Rs.50, 000, 27.2 percent (68) belongs to Rs.50, 000 to Rs.70, 000, and the remaining 21.2 percent (53) belongs to above Rs.70, 000. An analysis of the education, occupation and income levels of the sample patients shows that majority of patients

belongs to graduation, doing business and whose annual income lie between Rs.50, 000 and Rs.70, 000.

7.2 Reliability

The internal reliability of various items of the questionnaire was verified by calculating Cronbach's alpha. Cronbach's alpha is used to measure the reliability of the instrument that ranges from 0 to 1, with values of 0.6 as lower level of acceptability (Hair et al.1998 & Nunnaly, 1978). The Cronbach's alpha estimated in the present study for computing the perceptions of patients was 0.712, which is much higher than the acceptable level, the constructs were therefore deemed to have adequate reliability.

7.3 Factor Analysis

The basic reason for applying factor analysis is to group the variables that are highly correlated. The factor analysis involves extraction of factors from a correlation matrix, deciding how many factors to be interrupted and finally rotating the retained factors. (Alias Radam et al, 2010). The adequacy of data for applying factor analysis has been verified by Kaiser-Meyer-Oklin (KMO) test. Generally, a value greater than 0.5, indicates that the factor analysis is appropriate. (Naresh Malhotra, 2009). In the present study the KMO test value is 0.657shows that sample selected for the study is adequate and is statistically significant for factor analysis. Data were subjected to factor analysis and the factors were generated using principle component analysis and varimax rotation. The principal component analysis in data extraction extracted seven factors with Eigen values above 1.0. The Table 2 shows the result of factor analysis.

The seven factors are namely, care, accessibility, fee structure, availability, cleanness, effective work environment, friendly atmosphere, and the total variance explained by the seven factors is 65.24 percent. According to Hair et al (1998), the sum of square of the factor loadings of each variable on a factor represents the total variance explained by the factor. And, so Eigen values greater than 1.0 are considered significant and a total variance greater than 60 percent is also considered satisfactory. Further, the percentage of variance explained is a summary measure indicating how much of the total variance of all variables, the factor represents and the percentage of variance explained statistically useful in evaluating and interpreting the factor (Aaker et al., 2001).

As per the analysis, the most important factor accounting for 13.311 % of variance is care. The statements of this factor are related to care taken by the hospital management. This factor consists of six variables namely, doctors are sincere and patience toward patients, good explanation is given to patients, good consulting exists, nurses give medicines timely, doctors give proper suggestions before discharge, patients are treated with respect. The loadings for the statements are ranging between 0.464 and 0.714, and the mean values are ranging between 2.57 and 3.21 respectively. The mean score of all the statements of this factor indicated that customers are more inclined towards 'agree'.

The second factor named,' accessibility' explained a total variance of 12.479%. It consists of four statements and the items are loaded from 0.436 to 0.700. The mean values of the variables showed that patients are somehow strongly agreed with the statements. The various statements that come under accessibility are more distance to be travelled to reach the hospital (2.56), good transportation facility is there to reach hospital (2.87), more waiting time is there for consulting the doctor (2.32) and the location of the hospital is convenient (2.97).

The third factor is the 'fee structure' recorded 10.979% of total variance and it consists of three statements. These items are loaded from 0.545 to 0.698. The mean values of the statements are fee charged for services is affordable (2.12), flexibility in payments exists (2.23), insurance coverage exists (2.07). The analysis of the overall mean value of the factor shows that the respondents are more inclined towards 'disagree'.

Availability being the fourth factor recorded 9.748 % of total variance. This factor consists of two statements and their factor loadings 0.425 and 0.672. The mean values of the statements

Table 2 Factor Analysis Results				
Factor 1(Care)		Loadings	Mean scores	Eigen value =2.929 Percentage of variance =13.311
	Doctors are sincere and patience toward patients	.649	3.21	
	Good explanation is given to patients	.504	2.57	
	Good consulting exists	.714	2.92	
	Nurses give medicines timely	.495	2.77	
	Doctors give proper suggestions before discharge	.464	3.02	
	Patients are treated with respect	.584	2.92	
Factor 2(Accessibility)				
	More distance to be travelled to reach the hospital	.436	2.56	Eigen value =2.745 Percentage of variance =12.479
	Good transportation facility is there to reach hospital	.594	2.87	
	More waiting time is there for consulting the doctor.	.700	2.32	
	Location of the hospital is convenient	.580	2.97	
Factor 3(Fee structure)				
	Fee charged for services is affordable	.545	2.12	Eigen value =2.551 Percentage of variance =10.979
	Flexibility in payments exists	.698	2.23	
	Insurance coverage exists	.621	2.07	
Factor 4(Availability)				
	Required number of physicians exists	.672	3.12	Eigen value =2.104 Percentage of variance =9.748
	Nurses and other services providers are available at the required time	.425	2.97	
Factor 5(Cleanness)				
	Good canteen and food facilities are available	.537	2.15	Eigen value =1.485 Percentage of variance =7.751
	Cleanness is maintained in the hospital	.609	2.24	
	Toilets in the hospitals are clean and good	.578	2.45	
Factor 6(Effective work environment)				
	The hospital staff are more sincere about their work	.595	2.95	Eigen value =1.293 Percentage of variance =5.578
	There exists respectful environment in the hospital	.480	2.72	
	The hospital staff have more respect towards patients	.475	2.65	
	High standards in diagnosis and treatment	.421	2.59	
Factor 7(Friendly atmosphere)				

are required number of physicians exists (3.12), nurses and other services providers are available at the required time (2.97), The analysis of the overall mean value of this factor shows that the respondents are more inclined towards 'agree'.

The fifth factor named cleanness recorded 7.751 % of total variance. This factor consists of the statements such as good canteen and food facilities are available, cleanness is maintained in the hospital and toilets in the hospitals are clean and good. The factor loadings of the three statements are 0.537, 0.609 and 0.578 and the corresponding mean values are 2.15, 2.24 and 2.45 respectively. The overall mean value of this factor is more inclined towards 'disagree'.

The sixth factor is the effective work environment. This factor recorded a total variance of 5.578 %. This factor consists of four statements such as the hospital staff is more sincere about their work, there exists respectful environment in the hospital, and hospital staff has more respect towards patients and high standards in diagnosis and treatment. The factor loadings of the four statements are ranging from 0.421 to 0.595 and the corresponding mean values are ranging from 2.59 to 2.95 respectively. The overall mean value of this factor is more inclined towards 'agree'.

The seventh factor named friendly atmosphere recorded a total variance of 5.094 %. This factor consists of five statements such as pleasant atmosphere exists in the hospital, good ambience exists, good ventilation exists at the rooms, frequent power problems arise in the hospital and hospital maintenance system is good. The factor loadings of the statements are ranging between 0.401 and 0.576 and the corresponding mean values are ranging from 2.25 to 2.96 respectively. The overall mean value of this factor is slightly inclined towards 'agree'. This factor is the least important factor explaining only 5.094 % of total variance. The overall mean score of the factors shows that availability is the factor ranked the first response. Similarly, the care taken by the hospital staff and the effective work environment are the other factors occupied second and third best responses.

8. Schematic Diagram of Patient Satisfaction

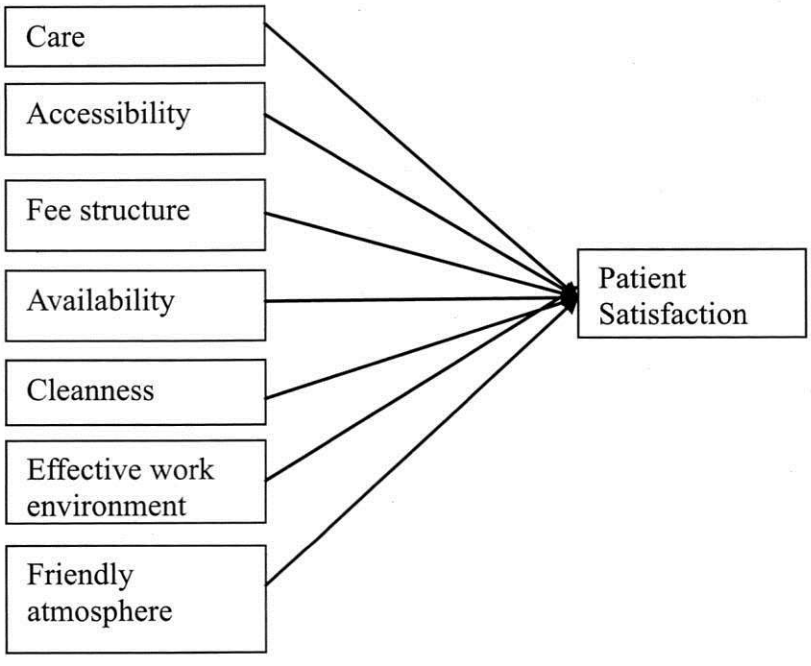

Figure 1 : Theoretical frame work of Patient Satisfaction

A theoretical frame work for the solutions to patient satisfaction problems is developed based on the objectives of the study. The model is developed in consistence with the various factors that represent the patient satisfaction. The development of this model will provide a sound base and will help the hospital administrators in further examination as to what extent can these factors influence the solutions to patient satisfaction problems.

9. Test of Hypothesis

To satisfy one of the objectives of the study and to test the association between the perceptions and the personal characteristics of the respondents, such as gender, age and occupation, Pearson's Chi-square test has been applied. Based on the data obtained from the patients, the perception scores have been calculated.

The satisfaction of the patients may be Low or Normal or High. The highest possible score by the individual is 108 and the lowest possible score is 27. On the basis of the satisfaction levels of the sample respondents, they were divided into three groups i.e. Low, Normal and, High (Table.3). Those who scored between 27 and 54 are identified as having Low satisfaction, between 55 and 81 are identified as having Normal satisfaction, and between 82 and 108 are identified as having satisfaction at High level.

Table 3 : Satisfaction of Patients

Low (27-54)	62	24.8
Normal (55-81)	112	44.8
High (82-108)	76	30.4
Total	250	100.0

It is clear from Table.3, that the majority of respondents i.e., 44.8 percent are having normal satisfaction about the hospital services, followed by 30.4 percent of the respondents with high satisfaction and 24.8 percent of the respondents with low satisfaction.

9.1 Testing of Hypothesis 1

Null hypothesis: There is no significant association between satisfaction and gender of the respondents.

Alternative hypothesis: There is a significant association between satisfaction and gender of the respondents.

Interpretation 1: For 2 degrees of freedom, Chi square value at 5 % level of significance is 5.9915. The calculated value of Chi square is 1.0126, which is less than the table value. Therefore the association between gender and the satisfaction of the patients is not significant. Thus, the null hypothesis is accepted.

9.2 Testing Hypothesis 2

Null hypothesis: There is no significant association between satisfaction and age of the patients

Table 4 Gender and Satisfaction of Patients

Level of Satisfaction	Gender		Total
	Male	Female	
Low	35	27	62
Normal	66	46	112
High	49	27	76
Total	150	100	250
Df=(r-1)(c-1)=2. Chi Square value is 1.0126			

Alternative hypothesis: There is a significant association between satisfaction and age of the patients

Interpretation 2: For 8 degrees of freedom, Chi square value at 5 % level of significance is 15.507. The calculated value of Chi square is 2.3838, which is less than the table value. Therefore the association between age and the perception is not significant. Thus, the null hypothesis is accepted.

9.3 Testing Hypothesis 3

Null hypothesis: There is no significant association between satisfaction and occupation of the patients

Alternative hypothesis: There is a significant association between satisfaction and occupation of the patients

Interpretation 3: For 8 degrees of freedom, Chi square value at 5 % level of significance is 15.507. The calculated value of Chi square is 3.4238, which is less than the table value. Therefore the association between occupation and the satisfaction of patients is not significant. Thus, the null hypothesis is accepted.

Table 5 Age and satisfaction of Patients

Level of Satisfaction	Age					Total
	Less than25	25-35	35-45	45-55	Above 55	
Low	8	9	18	12	15	62
Normal	14	17	30	21	30	112
High	10	11	22	19	14	76
Total	32	37	70	52	59	250
Df=(r-1)(c-1)=8 Chi Square value is 2.3838						

Table 6 Occupation and Satisfaction of Respondents

Perception Scores	Occupation					Total
	House hold	Farmer	Business	Employee	Labour	
Low	11	12	15	16	8	62
Normal	18	17	30	28	19	112
High	8	14	20	18	16	76
Total	37	43	65	62	43	250
Df=(r-1)(c-1)=8. Chi Square value is 3.4238						

10. Conclusion

The services provided by the hospitals have been studied to determine a solution to the patient's dissatisfaction. The results of factor analysis technique shows that availability of required number of doctors and nurses in the hospital is the most important factor followed by care taken by the hospital staff, effective work environment, accessibility, friendly environment, cleanness and fee structure.

Therefore the hospital management authorities must give utmost importance to these factors to overcome the dissatisfaction problems faced by them as all these factors contribute to the positive perceptions of patients towards effective management of hospitals.

Factors mean score values indicate that fee structure of the hospitals recorded the lowest response among other factors. The reason for the poorest response may be due to charging higher amounts for the services affordable and non acceptance of delayed payments etc. Cleanliness is the next lowest response factor. The reason for getting dissatisfaction on this factor may be due to absence of proper canteen and food facilities, no neatness in the hospital premises and dirty toilets etc, .The next poorest response is related to the friendly atmosphere. It may be due to absence of pleasant atmosphere and lack of ambience and hospital maintenance system. On the other hand, the respondents have given highest response to availability of doctors and nurses in required number. The reason may be due to getting an easy access with the doctors and nurses and their availability as and when required. The next best response factors are the care taken by the hospital staff, followed by the effective work environment, shows that the attitude of the hospital staff plays a majority role in minimizing the dissatisfaction of the patients. Chi-square test has been used to study the relation of satisfaction scores and the personal characteristics of the respondents. The results of Chi-square test show that there is no significant relation with gender, age and occupation of the respondents.

The analysis of this research paper and the results obtained will provide a strong base to the hospital authorities about various factors to be taken into consideration, to minimize the patient dissatisfaction problems and to focus attention on the factors for the effective management of the hospitals.

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