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Evaluation of Patient Satisfaction in Relation to Patient Factors in Surgical Centre - A Study from Central India

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Abstract:
Background: *Patient satisfaction is influenced by patient factors and service-provider factors. The cultural, social and economic conditions of the people living in the region affect the perceptions, attitude, and understandings of the persons, which has a bearing on the satisfaction they derive from the hospitals and its services. The study aims to find the relationship between patient satisfactions focusing on the patient's socio-demographic characteristics.*
Methods: *This is a cross-sectional study, which was conducted from 1st July, 2012 to 15th August, 2012 among the patients admitted to a private surgical hospital in Bhopal, India. A structured, validated questionnaire form was distributed using simple randomization method. The patients themselves or their representative filled up the questionnaire. Data was analyzed and appropriate statistical tests applied.*
Results: *Seventy five patients with mean age of 49.53 ±20.2 years were analyzed. Patient's age ($p<0.05$), inhabitant ($p<0.01$), educational attainment ($p<0.02$) and income level ($p<0.02$) had a significant relationship with patient satisfaction level. The patient's gender ($p<0.50$) did not had a significant relationship with patient satisfaction level.*
Conclusion: *Patient's age, inhabitant, educational and income level are related to their satisfaction levels. We further suggests about optimizing patient-service provider communication by identifying potential age groups to target with improvement efforts, leading to enhancement of patient satisfaction.*
Keywords: *Patient satisfaction, hospital services, Patient characteristics, health care*

I. Introduction

In the past few decades there has been a sea change occurring in the health care sector. It is becoming more consumer (patient) oriented. Awareness about health is increasing tremendously among people in rural as well as urban areas. People today, do expect high quality of medical care at the affordable cost. They show awareness about the technological, medical, physical facilities they get from a particular health service provider and the cost they have to pay for availing the services. Consumer of the health care sector is very alert and aware about his rights and the standards of services he is going to pay for. The key to become a successful health care provider is utmost satisfaction of health care users; the patients. Thus the establishment and survival of any hospital depends on its patients (clients) and now there is no doubt that this fact is accepted as a principle. In fact, a satisfied patient is a profit supplier and hospitals that fail to attract their patient's satisfaction will face the threat of dissolution in the long term.[1]

The patients are the only reason in the creation of hospital.[2] A hospital provides patients with their medical needs, and also the lodging facility similar to hotel facilities. Patent satisfaction is influenced by various factors, broadly divided into two groups; the patient factors and service provider factors (clinical and non-clinical). The patient factors are patient's demographic and socio economic status, level of education, and past experience in the same or other hospital. Horak et al. considered the geographical and cultural factors the most important factors in the planning of requirements and expectations of patients in hospitals.[3] The expectations and requirements of patients are the main indicators of the quality of the programming model of the road map and proper assessment of the patient's environment variables specified.[4] Much research has been focused on the organizational processes, however understanding the issues and identifying the expectations and requirements of clients are always important.[5] Few researchers have tried to assess the influence of patient satisfaction and the patients' cultural and geographical conditions.[6,7,8] The study aims to find the relationship between patient satisfaction focusing on the patient's socio-demographic characteristics.

II. Methods

A cross-sectional, questionnaire based study was carried out at a private surgical hospital. It was conducted from 1st July, 2012 to 15th Aug, 2012. The hospital exclusively offers Urological and General Surgical services in the city of Bhopal. The population in this study was the patients of Bhopal district and the catchments rural areas. Based on the complete theory, "satisfaction" has been perceived as a simple difference

between what one expects and what is actually being offered. Also, social comparison theory defines "satisfaction" based on the direct comparison of patient satisfaction for the hospital services received than services offered by others.[1,9]

A structured validated questionnaire form was used, with registration details, socio- demographic variables. The questions were designed in a way to get a clear picture of the patient's level of satisfaction. Simple randomization technique was used; all even ending registration numbers were given the questionnaire forms. The patients were explained about various items of questionnaire in their own language. Satisfaction was evaluated in relation to various aspects of hospital services like surgeons and nursing services, communication systems among the doctors and nurses, communication system with patients, bed-unit's comfort, cleanliness, hospitality, and the facilities for the relatives/friends. Thus a total of 8-parametes were framed.

Patient interfaces (behavioral exchanges) and services offered and experience (feelings) during the inpatient hospital stay are taken as the yardsticks for their satisfaction levels. Each of the parameters listed for the hospital services in the above paragraph were measured (graded) on a numerical scale by the patient himself. The scale ranged from numerical score 1-5. The grades were fair-1, satisfactory-2, good-3, very good-4 and excellent-5. An overall satisfaction score was calculated by addition of the score of all the eight parameters. The maximum total score was 40. An overall score of 25 or more was taken as satisfied patient, and less than 25 as unsatisfied.

The data were collected and analyzed in MS-excel. Chi-square test was used to compare the variables. The p values were referred from the Fisher's table for the level of significance.

III. Results

The mean age of 75 cases was 49.53 years (range 16-90 years, SD=20.12). 57 males (76%) and 18 females (24%) with male to female ratio of 3:1

Table.1 Age distribution of study subjects (N=75)

Age-groups (years)	No. of patients	Percentage
16-30	17	22.66%
31-45	19	25.33%
46-60	15	20.00%
61-75	18	24.00%
76-90	06	08.00%
Total	75	100%

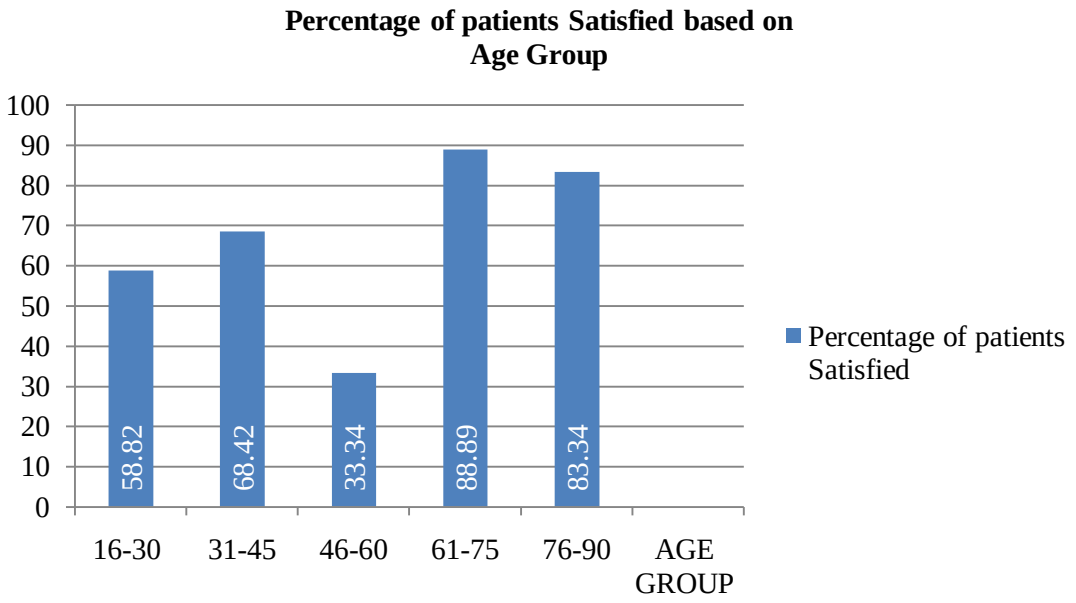
The age variable in the study group was divided into five classes, having class interval of 15 years.

Table 2: Patient Satisfaction in various age groups

Age-groups (years)	Satisfied	Unsatisfied	Percentage Satisfied
16-30	10	07	58.82%
31-45	13	06	68.42%
46-60	5	10	33.33%
61-75	16	02	88.88%
76-90	5	01	83.33%
Total	49	26	65.33%

The Sum of Chi-square for the 2x5 table was 10.61181912. The sum of X^2 value 10.61181912 is greater than the Fisher's table value 9.49 at degrees of freedom 4, corresponding to P=0.05, it is significant at <5% level.

Figure 1: Patient Satisfaction in various age groups



57.89% of the males and 72.22% of the females were satisfied in this study. The Sum of Chi-square for the 2x2 table was 1.184111891. The sum of X^2 value 1.84111891 is greater than the Fisher's table value 0.46 at degree of freedom 1, corresponding to P=0.50, it is insignificant at <50% level.

Table.3 Patient Satisfaction in relation to Gender (N=75)

Gender	**Satisfied**	**Unsatisfied**	**Percentage Satisfied**
Male	33	24	57.89%
Female	13	5	72.22%
Total	46	29	-

84.61% of the patients from urban areas were satisfied as compared to 55.55% in the rural group. The Sum of Chi-square for the 2x2 table was 7.626335928. The sum of X^2 value 7.626335928 is greater than the Fisher's table value 6.64 at degree of freedom 1, corresponding to P=0.01, it is highly significant at <1% level. The level of satisfaction in urban patients was significantly higher than those in rural group.

Table.4 Patient Satisfaction in relation to Urban or Rural status (N=75)

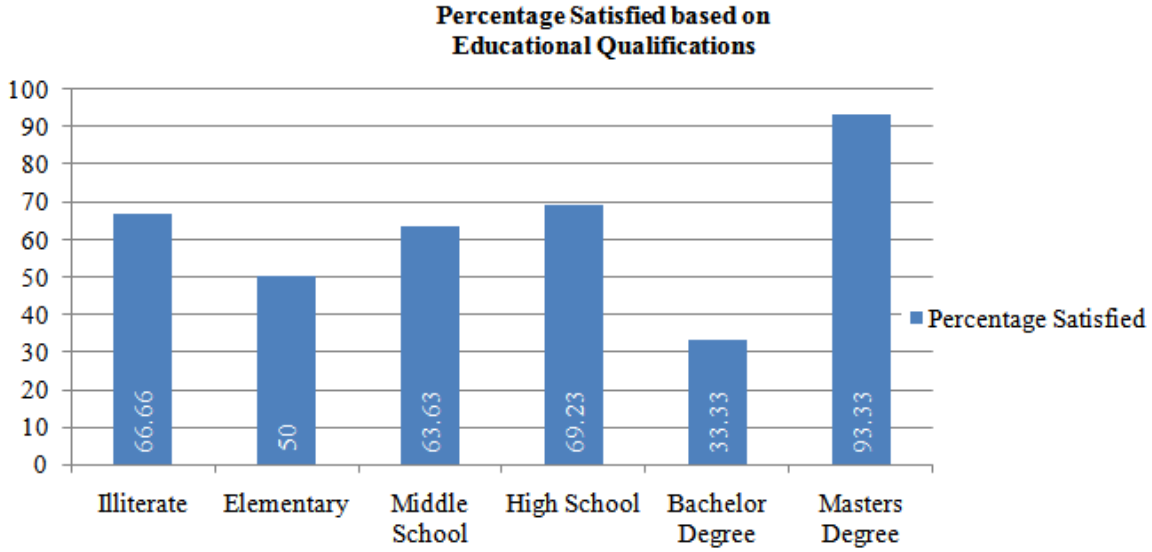
Inhabitant	**Satisfied**	**Unsatisfied**	**Percentage Satisfied**
Urban	33	06	84.61%
Rural	20	16	55.55%
Total	53	22	-

The group was divided as per the educational system prevalent in the society. 69 patients(92%) of the patients were literate and 6 patients(8%) were illiterate. 6 patients(8%) could only read and write(elementary), 11(14.6%) middle school, 13 patients(17.3%) high school, 24 patients(32.0%) bachelor degree, 15 patients (20.0%) masters degree. The Sum of Chi-square for the 2x6 table was 13.52350281. The sum of X^2 value 13.52350281 is greater than the Fisher's table value 13.39 at degree of freedom 5, corresponding to P=0.02, it is significant at <2% level.

Table 5: Patient Satisfaction in relation to educational qualification (N=75)

Educational status	Satisfied	Unsatisfied	Percentage satisfied
illiterate	04	2	66.66%
elementary	03	3	50%
middle school	07	4	63.63%
high school	09	4	69.23%
bachelor degree	08	16	33.33%
masters degree	14	1	93.33%
Total	45	30	-

Figure 2: Patient Satisfaction in relation to educational qualification (N=75)

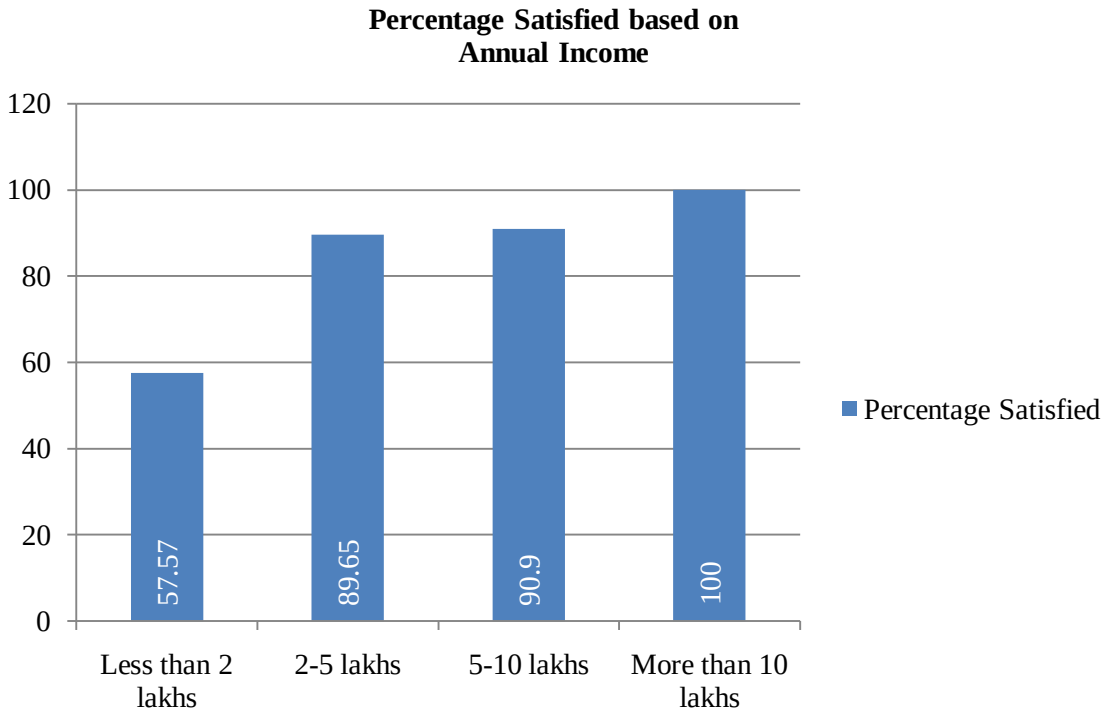


The income groups were formed according to their annual earning. The annual income group between 5 to 10 Lacs had maximum percentage of the satisfied patients. The Sum of Chi-square for the 2x4 table was 10.72134833. The sum of X^2 value 10.72134833 is greater than the Fisher's table value 9.84 at degree of freedom 3, corresponding to P=0.02, it is significant at <2% level. The level of satisfaction varied in direct proportion to the annual income of the patient and the results were significant (p=0.02)

Table 6: Level of the satisfaction in relation to annual income of the patient (N=75)

Income groups (annual income)	Satisfied	Unsatisfied	Percentage
Less than 2 Lacs	19	14	57.57%
2 to 5 Lacs	26	03	89.65%
5 to 10 Lacs	10	01	90.90%
More than 10 Lacs	02	0	100%
Total	56	19	-

Figure 3: Level of the satisfaction in relation to annual income of the patient (N=75)



IV. Discussion

Quality care from the patient's perspective is an important aspect in the growth and development of health services. In the present study the patients' demographic and socio-economic factors in determining satisfaction were analyzed. All these factors, like age, gender, education, living environment, rural or urban and income level include the elements that are involved in shaping culture and society.

The literature appears to have wide range of findings on the importance of patients' demographic and social factors in determining satisfaction. Some studies mention, patient demographics are a minor factor in patient satisfaction,[10] while still others concluded that demographics represent 90 percent to 95 percent of the variance in rates of satisfaction [11].

In the present study, older patients tend to be more satisfied with their health care. The, age itself influence how different patients perceive similar interactions. Younger patients have higher expectations that influence the dynamics of the hospital encounter and perceptions about their care. They place a greater emphasis on the expediency and aggressive nature of their care. In contrast, older patients have different attitude and prefer continuity of care. Older patients are more easily satisfied with care due to their greater familiarity with the shortcomings of the health care system and being more forgiving of its inadequacies.[12] The expectations of older patients may also be closer to standards set by the health care system based on a lengthier history of dealing with the system, so older populations will more likely report that health care interactions met their expectations.[13] They valued expectant management and care for the whole person rather than the individual disease or symptom.[14] The drop in satisfaction percentage in the middle age group (45-60yrs) could be attributed to the fact that, people in this age tend to have rational approach to problems. With their knowledge of prevailing problems and circumstances, they are in a better position to ascertain the precise quality of health care. They are more candid in their conversation and express themselves freely.

Our findings in the study reveal that, gender did not affect the rate of satisfaction of hospital services. Studies on the effect of gender are contradictory, with some studies showing that women tend to be less satisfied and other studies showing the opposite. In Khamseh and Edwards studies showed that there is little difference in the satisfaction level of women and men.[6] Similar was the finding of meta-analysis of JA Hall et.al.[10]

From our study, it can be said that there is a significant relationship between the level of patient satisfaction and his living environment. The urban patients are more satisfied than rural counterparts. The culture in the city population is very different from the rural areas. The information tends to overflow in the city areas. The rural patients are compelled to move to urban areas for appropriate healthcare facilities. Migrating to

urban place adds to their logistic problems and ultimately resulting in lower satisfaction level. These factors account for the greater satisfaction percentage in urban group.

Patient satisfaction is related to their education level. The patients with higher level of education are better informed, more rational in their approach, more analytical and factual in their practical applications, so have calculative expectations, and hence tend to exhibit higher satisfaction percentage in contrast to less educated. The definition of quality health services is based on the increasing public awareness. In contrast to our findings, the study conducted at Firoozgar Hospital on patient satisfaction reflected that the variables of age, gender and education did not have an impact on public satisfaction.[6,15] The bachelor group exhibits low satisfaction percentages could be due the fact that most of them are teenagers and early adults with tremendous apprehension and anxiety, with heightened irrational and unrealistic expectations.

The satisfaction levels vary in different income groups. It is 57.575% in the income group of up to 2 Lacks, 89.65% in 2-5 Lacks, 90% in 5-10 lacks and 100% in above 10 Lacks. The lower and middle income groups have limitations of their paying capacities and over a period of time develop the tendency of tolerance/sacrifice which eventually leads to compromising satisfactions. On the contrary higher income groups by virtue of their paying capacities have access to all the facilities they desire and achieve higher satisfactions. Additionally higher groups by and large have better understanding of the problems with increased analytical skills; hence achieve better contentment and satisfactions.

V. Conclusion

In the world of competition, customers' care and satisfaction have become an important parameter of quality control, and success of a healthcare organization depends considerably on it. In conclusion, consumer (patient) satisfaction is influenced by the demographic, environmental and cultural factors. Consequently, the patient's age, inhabitant, educational attainment and income level are effective in changing patient satisfaction. We suggest about optimizing patient-service provider communication by identifying potential age groups to target with improvement efforts.

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