

## RESEARCH ARTICLE

## Patient satisfaction in diabetes specialty hospital at Erode district, TN, India

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### Abstract

A survey on patient satisfaction in diabetes specialty hospital at Erode district, TN, India was evaluated in this study. It is a fundamental requirement of hospitals to regulate patient care to improve the quality of hospital services. Level of patient satisfaction towards departmental services, waiting time, medical facilities, doctor and nurse services, treatment charges, ambulance services was carried out. Percentage analysis was employed for analyzing the satisfaction level of the respondents. In this study, among 200 respondents, about 32% were in the age group of 20-40 years. Twenty two percent were satisfied with the treatment charges, 28% for doctor's service and 30.5% for nurse service, 29% for waiting time, 29.5% for medical facilities and 36.5% for patient services. From the findings, it was found that 95-97% of the respondents were highly satisfied with the hospital services.

**Keywords:** Patient satisfaction, diabetes, medical facilities, doctor services, treatment charges.

### Introduction

In today's highly competitive environment, hospitals are increasingly realizing the need to focus on service quality as a measure to improve their competitive position. Patient satisfaction based determinants and perceptions of service quality, therefore, play an important role when choosing a hospital. Quality has been shown to be an important element in the patients' choice of hospital. With increasing awareness, patients expect quality in healthcare services. In the light of these changes, there is an emerging need to improve the quality of healthcare services. Patient satisfaction with delivery of health care services has become recognized as an increasingly important indicator of the quality of health services (Marquis *et al.*, 1983). Satisfied patients are more likely to continue using health services, maintain relationships with specific providers and comply with care regimens, than unsatisfied patients (Bartlett *et al.*, 1984).

Diabetes is a chronic disease that requires continuing management, often including medication, to prevent acute complications and to reduce the risk of long-term complications (ADA, 2012). Treatment satisfaction is one example of patient-reported outcomes (Lohr and Zebrack, 2009). Quality is an important element in the patients' choice of hospital. With increasing awareness, the patients expect quality in healthcare services. Considering the above facts, a survey on patient satisfaction in diabetes specialty hospital at Erode district, TN was carried out. The survey was carried out based on various inpatient/outpatient procedures held in the hospital with number of patients and visitors. Different levels of satisfactions are found among the respondents in terms of various procedures.

### Materials and methods

**Study population:** The study was employed covering 200 in/out patients of SRC Diabetes Care Centre at Erode district, TN, India during 01/06/2011 to 31/12/2011 by random sampling.

**Study design and data collection:** Descriptive research design was used in this study. Primary data was mainly used in this study and it is collected by means of a well structured questionnaire. Secondary data was collected from various sources like books, journals, published articles and various websites.

**Statistical analysis:** Simple percentage analysis was used to analyze the data. To test the significant difference among satisfaction level between age and in/outpatient level of satisfaction, a null hypothesis was framed and tested with the help of chi-square test.

H<sub>0</sub>: There is no significant difference between age and in/outpatient level of satisfaction.

H<sub>1</sub>: There is a significant difference between age and in/outpatient level of satisfaction.

### Results and discussion

Age is an important variable is ascertaining patients' level of satisfaction. For this purpose, age has been studied under for category viz., below 20 years, 20-40 years, 41-60 years above 60 years. Out of 200 respondents, 32% were in the age group of 20-40 years, followed by 31% in the age group of 41-60 years. it is concluded that most of the respondents using medical services belonged to 20-40 and 41-60 years age groups (Table 1).



Table 1. Age of the respondents.

Age	No. of respondents	Percentage
Below 20	33	16.5
20-40	64	32.0
41-60	62	31.0
Above 60	41	20.5
Total	200	100

Source: Primary data.

It was found that out of 200 respondents, 51% were male and 49% were female. It can be concluded that gender of the respondents shows equal level of having diabetic and taking treatment equally in both the gender (Table 2).

Table 2. Gender of the respondents.

Gender	No. of respondents	Percentage
Male	102	51.0
Female	98	49.0
Total	200	100

Educational qualification helps the patients to identify a better doctor in the diagnosing centre. It gives awareness among the diabetic patient to utilize better hospital services. For the purpose of the study, educational qualification was made under five categories viz., no formal education, school level education, graduates, post graduates and other professional qualification. It was found that 31.0% has completed school level education and 23.0% had no formal education. It was also found that 20.5% were undergraduates, 18.5% were postgraduates and 7.0% are having of the professional and technical qualification (Table 3).

Table 3. Education level of the respondents.

Educational qualification	No. of respondents	Percentage
No formal education	46	23.0
School level	62	31.0
UG	41	20.5
PG	37	18.5
Professional	14	7.0
Total	200	100

About 44.5% of the respondents' annual income was less than Rs. 50,000, followed by 23.5% around 50,0001 to 1,00,000 and 18.0% around Rs.100001-500000. On the other hand, 14.0% of respondents' annual income was above 5,00,000 (Table 4).

Table 4. Annual income of the respondents.

Annual income	No. of respondents	Percentage
Less than Rs.50000	89	44.5
Rs.50001-100000	47	23.5
Rs.100001-500000	36	18.0
Above Rs.500000	28	14.0
Total	200	100

Out of 200 respondents, 28.5% of the respondents' occupation was agriculture followed by 28.0% of the respondents was working as a private/government employee. About 18.5% of the respondents were working in other occupations (Table 5).

Table 5. Occupation of the respondents.

Occupation	No. of respondents	Percentage
Agriculture	57	28.5
Business	33	16.5
Professionals	17	8.5
Pvt./Govt. employee	56	28.0
Others	37	18.5
Total	200	100

In/outpatient conveniences facility was evaluated in this study. About 23.5% of respondents preferred accommodation facilities, 10.5% were satisfied with payment system, 10% percent were satisfied with discharge procedure, 18.5% were satisfied on room reservation facility, 17.5% were satisfied on support services, 9.5% were satisfied on medical shop and 10.5% were satisfied on general instructions (Table 6).

Table 6. In/outpatient conveniences facility.

Conveniences facility	No. of respondents	Percentage
Accommodation facilities	47	23.5
Payment system	21	10.5
Discharge procedure	20	10
Room reservation facility	37	18.5
Support services	35	17.5
Medical shop	19	9.5
Total	200	100

Out of 200 respondents, 48.5% have visited the hospital less than 3 times. It is also noted that 26.0% had visited the hospital 3 to 5 times. 25.0% had visited the hospital more than 5 times. It is concluded that less than 3 times visit is made often by the sample respondents (Table 7).

Table 7. Frequency of visits to diabetes care centre.

Frequency of visits	No. of respondents	Percentage
Less than 3 times	97	48.5
3 to 5 times	53	26.5
More than 5 times	50	25.0
Total	200	100

For the level of patient satisfaction towards treatment charges, 5 variables were chosen viz., highly satisfied, satisfied, neutral, dissatisfied and highly dissatisfied. About 33.5 of the respondents were highly satisfied towards treatment charges, 22% were satisfied, 25% opined neutral, 11% respondents were dissatisfied and only 5.5% were highly dissatisfied (Table 8).

Table 8. Treatment charges in diabetes care centre.

Level	No. of respondents	Percentage
Highly satisfied	67	33.5
Satisfied	44	22.0
Neutral	50	25.0
Dissatisfied	22	11.0
Highly dissatisfied	17	5.5
Total	200	100

About 28% of the respondents were highly satisfied on the doctor services, 22.5% were satisfied, 21% were neutral, 15% were dissatisfied and only 13.5% were highly dissatisfied (Table 9).

Table 9. Doctor services in diabetes care centre.

Level	No. of respondents	Percentage
Highly satisfied	56	28.0
Satisfied	45	22.5
Neutral	42	21.0
Dissatisfied	30	15.0
Highly dissatisfied	27	13.5
Total	200	100

About 30.5% of the respondents were highly satisfied on the nurse services, 26.5% were satisfied, 23.5% were neutral, 20.5% were dissatisfied and only 9% were highly dissatisfied (Table 10).

Table 10. Nurse services in diabetes care centre.

Level	No. of respondents	Percentage
Highly satisfied	61	30.5
Satisfied	53	26.5
Neutral	47	23.5
Dissatisfied	21	20.5
Highly dissatisfied	18	9.0
Total	200	100

About 29% of the respondents were highly satisfied on the querying system of the waiting time, 28% were satisfied, 27% were neutral, 11% were dissatisfied and only 5% were highly dissatisfied (Table 11).

Table 11. Querying system of the waiting time in diabetes care centre.

Level	No. of respondents	Percentage
Highly satisfied	58	29.0
Satisfied	56	28.0
Neutral	54	27.0
Dissatisfied	22	11.0
Highly dissatisfied	10	5.0
Total	200	100

About 29.5% of the respondents were highly satisfied on the medical facilities, 25.5% were satisfied, 23.5% were neutral, 12% were dissatisfied and only 5% were highly dissatisfied (Table 12).

Table 12. Medical facilities in diabetes care centre.

Level	No. of respondents	Percentage
Highly satisfied	59	29.5
Satisfied	51	25.5
Neutral	47	23.5
Dissatisfied	24	12.0
Highly dissatisfied	19	9.5
Total	200	100

About 24.5% of the respondents were highly satisfied on patient services, 36.5% were satisfied, 19.5% were neutral, 13.5% were dissatisfied and only 6% were highly dissatisfied (Table 13).

Table 13. Patient services in diabetes care centre.

Level	No. of respondents	Percentage
Highly satisfied	49	24.5
Satisfied	73	36.5
Neutral	39	19.5
Dissatisfied	27	13.5
Highly dissatisfied	12	6
Total	200	100

A study was made to analyze the level of patient satisfaction regarding inpatient services. About 47.27% of the respondents were highly satisfied on inpatient services, 32.73% were satisfied, 9.09% were neutral, 3.64% were dissatisfied and only 6% were highly dissatisfied (Table 14).

Table 14. Inpatient services in diabetes care centre.

Level	No. of respondents	Percentage
Highly satisfied	52	47.27
Satisfied	36	32.73
Neutral	10	9.09
Dissatisfied	8	7.27
Highly dissatisfied	4	3.64
Total	110	100.00

Similar to the above study the level of patient satisfaction regarding outpatient services was evaluated. About 45.56% of the respondents were highly satisfied on inpatient services, 31.11% were satisfied, 11.11% were neutral, 7.78% were dissatisfied and only 4.44% were highly dissatisfied (Table 15).

Table 15. Outpatient services in diabetes care centre.

Level	No. of respondents	Percentage
Highly satisfied	41	45.56
Satisfied	28	31.11
Neutral	10	11.11
Dissatisfied	7	7.78
Highly dissatisfied	4	4.44
Total	90	100.00

To test the significant difference among patient satisfaction level between age and in/outpatient level of satisfaction, a null hypothesis was framed and tested with the help of chi-square test. The calculated chi-square value is less than the table value and the result is significant as 5% level. Hence, the null hypothesis ( $H_0$ ) is accepted from the analysis and it is concluded that there is no significant relationship between age and in/outpatient level of satisfaction (Table 16).



Table 16. Cross tabulation between age and in/outpatient level of satisfaction.

Age/Level	Highly satisfied	Satisfied	Neutral	Dissatisfied	Highly dissatisfied	Total
Below 20 years	15	9	4	3	2	33
20-40 years	30	22	6	4	2	64
41-60 years	31	20	5	5	1	62
Above 60 years	17	13	5	3	3	41
Total	93	64	20	15	8	200

  

Chi-square test				
Factors	Calculated $\chi^2$ value	Table value	DF	Remark
Age and in/outpatient level of satisfaction	4.1024	16.919	3	Not significant

**Conclusion**

A survey on patient satisfaction in diabetes specialty hospital at Erode district, TN, India was evaluated in this study. Percentage analysis was employed for analyzing the satisfaction level of the respondents. In this study, among 200 respondents, about 32% were in the age group of 20-40 years. Twenty two percent were satisfied with the treatment charges, 28% for doctor’s service and 30.5% for nurse service, 29% for waiting time, 29.5% for medical facilities and 36.5% for patient services. From the findings, it was found that 95-97% of the respondents were highly satisfied with the hospital services. To test the significant difference among patient satisfaction level between age and in/outpatient level of satisfaction, a null hypothesis was framed and tested with the help of chi-square test. The calculated chi-square value is less than the table value and the result is significant as 5% level. Hence, the null hypothesis ( $H_0$ ) is accepted from the analysis and it is concluded that there is no significant relationship between age and in/outpatient level of satisfaction. This study also discussed the prerequisite and characteristics of Patient Satisfaction so there should be a continuous improvement in services.

To conclude, from the study it was found that SRC Diabetes Care Centre, Erode provides better services in all aspects and in order to continue their good services, the hospital administration should take interest to identify the expectations of the patients, measure the current performances and should fill the gap in near future.

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