

## ORIGINAL ARTICLE

# Patients' satisfaction survey on healthcare services among non-communicable disease patients at a tertiary care hospital in Puducherry

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## Abstract

**Background:** Patient satisfaction is a scale to assess the services offered by the healthcare system. Patient's feedback is necessary to identify problems that need to be resolved in improving health services. **Aim & Objective:** Keeping this in view, the present study is an initiative to estimate the patient's satisfaction in service provision among NCD patients at a tertiary care hospital of Puducherry. **Settings and Design:** A Facility-based descriptive cross-sectional study was conducted among NCD patients attending General medicine OPD of a tertiary care hospital of Puducherry between April-June 2019. **Methods and Material:** Assuming 50% satisfaction level among study participants and 5% non-response rate, the sample size was estimated as 404. The NCD register maintained at the General medicine OPD was considered as the sampling frame & systematic random sampling was applied, so that every 5th patient satisfying the inclusion criteria will be included. A standardized patient satisfaction questionnaire with 31-items (4 domains) which is validated for Indian setting (Cronbach's alpha 0.96) was used. **Statistical analysis used:** Data capture was done using Epicollect-5 android application and analysed using SPSS version 16.0. **Results:** Among the 404 NCD patients, the mean age was 56 ± 11.8 (SD) years and 60.6% were females. One in four patients felt poor in reception, doctor-patient relationship and dispensary services. The overall satisfaction of study subjects categorized as good, satisfactory, poor was 6%, 86% and 8% respectively. **Conclusions:** Majority of the study participants were satisfied with the service provision of the health facility. Still, there is a scope for improvement in dispensary, doctor-patient relationship and registration services.

## Keywords

Patient's Satisfaction; Service Provision; NCD patients

## Introduction

Patient satisfaction is a scale to assess the services offered by healthcare system. It depends on quality of clinical services provided, availability of medicine, behaviour of healthcare providers, cost of services, hospital infrastructure, physical comfort, and emotional support.(1) Patients' feedback is imperative to identify problems that need to be resolved in improving the health services. Though, this is not carried out systematically to improve health services, this type of feedback triggers a real interest that can lead to a change in healthcare provider's culture and in their perception of patients.(2) Patient's satisfaction seems to be decreasing and communication gap between doctors and patients are increasing. It is one of the main reasons of recently reported upsurge in medical violence incidents. (3) Patients' dissatisfaction can cause shift of patients to either costly private hospitals or cheap treatment by quacks resulting in poor quality of health care. Thus, the public health care system must seek to reorganize itself to ensure the effective delivery of quality services to all patients.(4)

There seems to be an epidemiological shift from communicable to non-communicable diseases (NCDs) globally as well as in India. The present-day approach to healthcare demands to embrace the attention of both patients and public in developing healthcare services and equity of access, but this is not easy to achieve, as it requires time, commitment and political support. Therefore, improvements in selected areas of health care delivery can be done through quality assurance and outcome assessment.(4) Patients' satisfaction can be used as a proxy measure of quality of health care services.(5)

There are published research articles available on satisfaction level for general patients in India and also in Puducherry but there is a dearth of knowledge on specific group of patients who utilize the services offered at public health sector on a regular basis rather than being a one-time visitor of a health facility and this would give a true estimate of the patients' satisfaction.

## Aims & Objectives

To estimate the patients' satisfaction in service provision among NCD patients at a tertiary care hospital in Puducherry

## Material & Methods

A descriptive cross-sectional study was conducted among 404 patients attending non-communicable disease (NCD) clinic under the General medicine out-patient department of a tertiary care hospital in Puducherry over a period of three months (May-July 2019). The NCD patients attending the clinic include patients with cardiovascular diseases, diabetes, hypertension, Dyslipidemia, Bronchial asthma, Epilepsy. The purpose of the study was clearly explained to the participants and written informed consent was obtained from them before the start of the study.

Consenting patients of either gender registered in the NCD clinic (functions separately but located in the General medicine OPD) and on medications for a minimum period of one month in the study setting were enrolled for the study. Terminally ill patients or those who were not comprehensive enough for data collection were excluded. Assuming 50% satisfaction levels among the study participants with 5% absolute precision, 95% confidence limits and non-response rate of 5%, the sample size was estimated to be 404. The NCD register maintained at the General medicine OPD was considered as the sampling frame & systematic random sampling was applied so that every fifth patient registered in the NCD register fulfilling the eligibility criteria was included as the study participants. Ethical approval (No.216/ IEC-25/ IGMC&RI/ F-7/ 2019) and administrative permission were obtained prior to the start of the study.

The study tool comprised of two parts, with part one pertaining to demographic details and treatment seeking behaviour of the study subjects, while part two contained a standardized patient satisfaction questionnaire with 31-items divided into four domains. This questionnaire has been validated for Indian setting (Cronbach's alpha 0.96). (6) The four domains include General (4 items), Reception/registration (10 items), Doctor-Patient relationship (9 items), Pharmacy (7 items) and overall satisfaction. Each question was scored in a scale of 1 to 5 where 1, 2, 3, 4 & 5 corresponds to strongly disagree, disagree, neutral, agree and strongly agree respectively.

Data was captured in a smartphone using Epi-collect 5 android application and analysis was performed in SPSS software version 16.0. Patient responses to items under each domain were summed and categorized into good, satisfactory and poor based

on 75th & 25th percentiles in the total responses for each domain. Descriptive statistics was computed using frequency and percentage for categorical data and median for continuous data.

## Results

The study conducted among 404 NCD patients attending General medicine OPD showed that the mean  $\pm$  SD age of the participants was  $56.2 \pm 11.8$  years. Males comprised 39.4% of the respondents while 60.6% were females. About 72.3% respondents were literates and 69.6% were employed. The most common non-communicable disease for which treatment was sought by the study participants was diabetes mellitus (76.7%) followed by hypertension (60.1%). [Table 1]

All respondents expressed high scale of satisfaction for accessibility of the OPD and its location (82.9%) and 75.7% for the parking area facility; however, participants rated lower satisfaction judgement with the signage system (36.4%) and with cafeteria facility it was observed to be only 50.5%. [Table 2]

In respondents' satisfaction concerning certain attributes like information received and courteousness of staff at the registration counter was documented to be 78% and 75.7% respectively. The study participants were inconsiderable with the queue system and registration time at the registration counter, which amounted to 65.1% and 61.6% respectively. Almost all respondents reflected a good satisfaction judgement against certain structural attributes like seating facility (77%) and toilet facilities (73.8%). One extenuating feature was the high level of satisfaction of respondents 82.2% with respect to drinking water availability at the registration. [Table 2]

The subjects showed a lower satisfaction level, 53.5% and 35.6% with the number of doctors available and waiting time for consultation respectively. Whereas the patients were well satisfied with the consultation room environment (74.3%) and consultation time with the doctor (74.5%). The most reassuring is the high level of satisfaction of respondents, 79.5% and 77.5% against the care attributes of communication about the disease process and sense of concern shown by the doctors to the patients during consultation. [Table 2]

The patients had a varied level of satisfaction with respect to dispensary domain. The respondents expressed high satisfaction judgement for the location of the dispensary counters (84.2%) while the

respondents were not so happy about the waiting time for collection of medicines (54.5%). It was observed that the patients were not satisfied with availability of the drugs (45%). The study revealed that the majority of respondents had been highly satisfied with courteousness of staff at the pharmacy counter and with the explanation given by pharmacists for dosages of prescribed medicines which accounted for 79.5% and 78.5% respectively.

[Table 2]

A fair number of participants 77% and 72% had reflected satisfactory results pertaining to general domain and reception domain respectively. A moderate number of participants 65% and 60% had shown satisfactory results pertaining to doctor-patient relationship domain and dispensary domain respectively. Most of the respondents rated overall feeling about visit to hospital out-patient department services as satisfactory (86%). [Figure 1]

## Discussion

The present patient satisfaction study had been conducted among 404 NCD patients attending the General medicine OPD regularly. The mean  $\pm$  SD age in years of the participants was found to be  $56.2 \pm 11.8$  years in this study whereas the mean age of the patients was 38.04 years in another study conducted among general OPD patients in a tertiary care hospital at Puducherry.(7) Another study conducted among OPD patients at a primary health center in Puducherry documented that the mean age of patients to be 44.3 years.(1) The difference with mean age in the present study when compared to other studies from same geographical region could be because of the fact that the present study included only the non-communicable disease (NCD) patients and did not take into account the general OPD patients like other studies.

In the present study, females were more compared to males which were similar to a study from Karaikal, where the total study population comprised 61.6% females (8) while in other studies majority of the study participants were males.(7,9) About 27% of them had no formal education but another study from Puducherry showed that around three-fourth of the respondents were illiterate and below SSLC.(7) This difference in literacy could be attributed to the fact that the present study was from an urban setting where as the other study was conducted in rural areas. Less than two-third were only unemployed among the study participants. Similar finding was

published by Rose A et al. (10) The most common non-communicable disease for which the treatment was sought by the study participants was diabetes mellitus followed by hypertension. This was similar to a study where nearly half of the participants interviewed were attendees of chronic disease clinic with the main presenting conditions as hypertension and diabetes. (8)

All respondents declared high degree of satisfaction for accessibility of the OPD and its location (82.9%) which was consistent with the findings by Mohd A et al and Arshad AS et al. (6,10) Also the participants showed a good satisfaction level for the parking area facility while it was low in a study conducted by Mohd A et al.(6) Patients rated lower satisfaction judgement with the signage system and with cafeteria facility which was again parallel with findings by Mohd A et al.(4)

Pertaining to information received and courteousness of staff at the registration counter, the study participants had shown high satisfaction level which was same as that of the study where participants had expressed high satisfaction with the attitude and behaviour of health staff, explanation and guidance given to them.(11,12) All respondents expressed a good satisfaction judgement against certain structural attributes like seating facility and toilet facilities. Also, there existed a high level of satisfaction of all respondents in respect to availability of drinking water at the registration. These findings were consistent with a study conducted by Sodani PR et al. (2) The high satisfaction level with the structural attributes could be because of the quality check and control by regular inspection by NABH (National Accreditation Board for Hospitals) in medical colleges and by following and maintaining IPHS (Indian Public Health Standards) at every hospital.

Respondents asserted a lower satisfaction level with the number of doctors available and waiting time for consultation. These findings were correlating with the findings from a study done by Quadri SS et al. (13) This could be substantiated by the fact that the study setting is a government tertiary care hospital. Hence, a large number of patients from the Puducherry and also from neighboring districts of Tamil Nadu are expected to be catered by the hospital which in turn has an impact on waiting time for consultation. There prevailed a high level of satisfaction of respondents, against the care attributes of communication about the disease

process, sense of concern shown by the doctors to the patients during consultation and consultation time with the doctors which were similar to studies done by Singh S et al and Baruah M et al.(14,15) The participants in the present study were not so happy about the waiting time for collection of medicines at the dispensary counters which was consistent with findings from similar studies.(16,17,18) The long duration of waiting time for collection of medicines in the present study could be again substantiated because of the patient load to the hospital. Other reason could be the time spent on explanation about the dosage of drugs to each patient, peak timings where the patients load is more on certain days like Monday and Saturdays.

Majority of the present study subjects were highly satisfied with the courteousness of staff and explanation given to patients for dosages of prescribed medications and other necessary instructions which were similar to a study conducted at Jaipur, India.(2) Most of the respondents rated overall feeling about visit to hospital OPD services as satisfactory which was consistent with a study conducted by Mohd A et al.(6)

## Conclusion

Overall, a majority of the study participants were observed to have satisfactory levels with the services provided by the NCD clinic, with the satisfaction levels declining when the assessment from general domain to pharmacy domain.

A good number of participants had shown satisfactory results pertaining to general domain and reception domain. A moderate number of participants had shown satisfactory results pertaining to doctor-patient relationship domain and dispensary domain. Most of the respondents rated overall feeling about visit to hospital OPD services as satisfactory. Still, there is a scope for betterment in signage system of the hospital and cafeteria facility with a clinch on NABH and IPHS guidelines

## Recommendation

The satisfaction level with waiting time for consultation was found to be less which could be addressed by adopting the "queuing theory" which would probably aid to reach optimal solution to proper channeling of the patients. Other measure could be increasing the appointment of physicians to cater the patient load and achieving the ideal doctor-patient ratio, 1:1000 as recommended by World Health Organization. Improvement of the dispensary

concerning availability of drugs could be made possible by following proper inventory control methods like strict adherence to First-in-First-out policy.

### Limitation of the study

The limitations could be that very few participants found the five-point scale difficult in understanding and the results of the present study cannot be generalized as it involved only one hospital. The strength of the present study could be utilization of a standardized questionnaire, validated for Indian setting with high reliability

### Relevance of the study

In the field of public health, quality healthcare service is an important component and patient satisfaction is considered as an outcome measure for quality of healthcare. It acts as a yardstick to measure success of the service delivery system functional at hospitals. Current study provides the insight about the NCD patients' satisfaction in service provision at a tertiary care hospital. This would help the administrators to identify the key areas to focus in planning the effective strategies to improve the quality of health services in Government health sectors right from primary health care level to tertiary care level as NCD patients are catered at all tiers of health care system in India.

### Authors Contribution

All authors have contributed equally.

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**Tables****TABLE 1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF STUDY POPULATION (N=404)**

Socio-demographic characteristics	n (%)
<b>Age group</b>	
Less than 45 years	82 (20.3)
45-60 years	165 (40.8)
More than 60 years	157 (38.9)
<b>Gender</b>	
Male	159 (39.4)
Female	245 (60.6)
<b>Education</b>	
Literate	292 (72.3)
No formal education	112 (27.7)
<b>Occupation</b>	
Employed	123 (69.6)
Unemployed	281 (30.4)
<b>Non-communicable diseases*</b>	
Diabetes	310 (76.7)
Hypertension	243 (60.1)
Dyslipidaemia	36 (8.9)
Cardio-vascular disease	27 (6.7)
Others	59 (14.6)

**TABLE 2 SATISFACTION LEVEL SCORE OF STUDY POPULATION IN VARIOUS DOMAINS (N=404)**

Question	Median	SD	%
<b>General</b>			
Q1. Accessibility/location	5.00	0.46	82.9
Q2. Signage system	4.00	0.91	36.4
Q3. Parking facilities	5.00	0.64	75.7
Q4. Cafeteria facility	5.00	1.08	50.5
<b>Reception/Registration</b>			
Q5. Information received	5.00	0.65	78.0
Q6. Queue system	5.00	0.66	65.1
Q7. Courteousness of staff	5.00	0.73	75.7
Q8. Registration time	5.00	1.14	61.6
Q9. Waiting area	5.00	0.85	66.3
Q10. Seating facility	5.00	0.61	77.0
Q11. Drinking water availability	5.00	0.60	82.2
Q12. Toilets facility	5.00	0.74	73.8
Q13. Magazines/TV etc	1.00	0.87	88.1
Q14. Cleanliness	4.00	0.85	41.3
<b>Doctor-Patient Relationship</b>			
Q15. Number of doctors	5.00	0.95	53.5
Q16. Waiting time	3.00	1.01	29.2
Q17. Satisfaction level with waiting time	3.00	0.92	35.6
Q18. Doctors' room environment	5.00	0.66	74.3
Q19. Consultation time	5.00	1.06	74.5
Q20. Satisfaction level with consultation time	5.00	0.78	74.8
Q21. Explanation about sickness by doctor	5.00	0.53	79.5
Q22. Sense of concern	5.00	0.5	77.5
Q23. Dignity/privacy	5.00	0.67	71.0
<b>Dispensary</b>			
Q24. Location of dispensing counters	5.00	0.46	84.2

Q25. Waiting area	5.00	0.80	69.3
Q26. Queue system	5.00	0.60	76.0
Q27. Courteousness of staff	5.00	0.64	79.5
Q28. Waiting time	5.00	1.22	54.5
Q29. Availability of drugs	4.00	0.84	45.0
Q30. Explanation about medicines and dosages	5.00	0.59	78.5
<b>Overall response</b>			
Q31. Overall feeling about visit to hospital	3.00	0.73	44.8

**Figures**

**FIGURE 1 SUMMATIVE SATISFACTION LEVEL OF STUDY POPULATION (N=404)**

