

# Assessment of Consumer Satisfaction to Improve Quality of Services Provided in Tertiary Care Hospital of Uttar Pradesh- A Cross-sectional Study

SUMIT SAXENA<sup>1</sup>, KULDEEP SRIVASTAVA<sup>2</sup>, ANURAG SRIVASTAVA<sup>3</sup>, ANJU SAXENA<sup>4</sup>

## ABSTRACT

**Introduction:** Satisfaction of the patient play a very important decisive factor for pay-for-performance metrics and it also replicates the type of care being provided. One of the major parameters to establish patient satisfaction is to measure success of services provided in hospital.

**Aim:** To assess the quality of care in terms of patient's satisfaction in a tertiary care hospital of Uttar Pradesh.

**Materials and Methods:** A community based cross-sectional study was carried out among patients attending the Outpatient Department (OPD) at Varunarjun Medical College and Rohilkhand Hospital, Uttar Pradesh, India. Total 88 people (patients or attendants) were interviewed by using a predesigned and pretested semi-structured proforma, in Hindi language. The questionnaire contained questions related to an individual's experience with the staff and environment of health system at the end of their outpatient visit. Data were analysed using Statistical Package for the Social Sciences (SPSS) version 20.0.

**Results:** The majority 37 (42.0%) belonged to age group of 34-49 years, 58 (66%) were males, 36 (40.9%) educated upto

high school and 45 (51.2%) belonged to general category. In the present study, regarding hospital informatory, 28 (31.8%) respondent found good direction indicators. Waiting period was less than half-an-hour reported by 47 (53.4%) patients. Sixty-three (71.5%) patients had opportunity to ask questions about their disease and treatment. Most of the respondent 50 (56.8%) said that hospital staff listened to their questions and problems. Statistically significant association was found in-between patient satisfaction and socio-demographic variable like age, gender, education and socio-economic status (p-value <0.05). Around 68 (77.2%) respondent were not satisfied with behaviour of hospital staff (nurses and paramedical staff) whereas only 35 (39.8%) respondent were satisfied with the behaviour of treating doctor.

**Conclusion:** Among the different domains of measurements of patient satisfaction, only few were satisfied with doctor's and paramedical staff. Doctor's time, behaviour of paramedical staff and poor quality of services were the main reasons for dissatisfaction among dissatisfied patients.

**Keywords:** Healthcare, Outpatient satisfaction, Quality services

## INTRODUCTION

In today's highly competitive healthcare environment, hospitals increasingly realise the need to focus on service quality, as a means to improve their competitive position in achieving patient satisfaction. This quest leads not only to satisfied and cared-for patients and families, but also to positive outcomes for your staff, your community and your organisation's health. There are two major implications of health care i.e., health care programs and medical care organisations where the latter is mainly concerned with curative care. These organisations are advanced in terms of advanced technology or digitalisation and are thus attractive but at the same time they should be cost effective [1]. In recent years, health care services demand quality assurance as one of the major facets in its establishment which largely relies on various factors like efficiency, availability and affordability etc. Satisfaction of the patient play a very important decisive factor for pay-for-performance metrics and is a multidimensional healthcare issue which is affected by many factors. It is one of the measures for evaluating the quality of patient care services [2]. One of the major parameters to establish patient satisfaction is to measure success of services provided in hospital [3].

Patient input and expert judgement when combined together can be used as one of the approaches to increase satisfaction of patient and quality of health care services. Thus, quality of services provided in relation to hospital care is the key ingredient to increase

confidence of the patient [4]. Better education, improved socio-economic status and availability of medical care has now broaden the demands from consumers [5]. Regular monitoring of customer's outlooks has become a simple measure to fulfill these demands [6,7]. Though health sciences are complex and dilemma still exists between quality being provided and utilisation of health care. But still, for the enhancement and progress of health services, research on health system plays a crucial role.

Patients' primacies and opinions on quality care have already been recognized in Western countries but developing countries like India still lack this type of information [8,9]. Customer satisfaction for services lies in their overall experience and in terms of quality of service. These customer-oriented terms, quality and satisfaction, have been the focus of attention for executives and researchers alike over the last decade or more. Keeping this background in mind the present study was undertaken in the Outpatient Department (OPD) to assess the quality of care provided in terms of patient's satisfaction in tertiary care hospital in Uttar Pradesh, India.

## MATERIALS AND METHODS

A community-based cross-sectional study was conducted in tertiary care hospital of Bareilly Division of Uttar Pradesh, India, to assess the patient's satisfaction towards hospital services. Ethical approval was taken from the Institutional Ethical Committee. The study was conducted from 1<sup>st</sup> February 2017 to 31<sup>st</sup> March 2017.

**Sample size calculation:**

$$n = \frac{4pq}{d^2}$$

Where p=positive character 72%

q=100-p=28%

d=allowable error 10%

In this study, sample size of study participants was calculated as 88 to find level of satisfaction. The prevalence (p) used for sample size calculation was taken as 72% (mean of satisfaction level with doctor services as found in literature [10,11] with 10% absolute error (d).

**Inclusion criteria:** Patients between 18 to 75 years of age attending the OPD in the different clinical department and ready to participate were included in the study.

**Exclusion criteria:** Patients who refused to participate were excluded from the study.

Total 88 outdoor patients were enrolled in this study on a random basis. Patients were enrolled in the study while registering for OPD slip. In the beginning, participants were briefed about the study and were given assurance about maintaining the confidentiality. Verbal consent was obtained from the patients. A predesigned and pretested semi-structured proforma after the pilot study in Hindi language comprising the essential items including socio-demographic data, individual's knowledge and understanding about environment of health system was used to gather data from either patients or their attendants after their outpatient visit.

Satisfaction of the patient was assessed under six provinces: General satisfaction, Technical quality, Interpersonal manner, Communication with billing counter personnel for treatment cost and OPD services, paramedical staff regarding care and doctors for medicine and treatment modalities, time spent with doctor, and accessibility and convenience. The investigator was not part of the treatment team. Neither the name of the examining doctor nor that of the patient were revealed at any point of time during the study. Face to face interview was conducted with patients after end of their OPD visit. Proforma was filled by the medico-social worker based on response of patient or their attendants in presence of investigator.

**STATISTICAL ANALYSIS**

The information collected was critically analysed and tabulated using Statistical Package for the Social Sciences (SPSS) version 20.0 software. Appropriate statistical test of significance (Chi-square) was applied to test and validate the findings of the study. A p-value <0.05 were considered significant.

**RESULTS**

While assessing the demographic profile of participants, majority 37 (42.0%) belonged to age group of 34-49 years, 58 (66%) were males, 36 (40.9%) educated upto high-school, 45 (51.2%) belonged to general category, 46 (52.2%) Hindu by religion and 49 (55.6%) participants were from social class III (middle) according to socio-economic status modified BG Prasad Classification [Table/Fig-1].

The way to various departments as depicted by sign boards and various directions directing towards the respective departments in the hospital was good as replied by majority of the {29 (32.9%)} respondents [Table/Fig-2].

Waiting time in the OPD was the biggest challenge among patients and their attendees. In the present study, majority {47 (53.4%)} of the patients reported that waiting period was less than half an hour whereas 41 (46.5%) reported that it was more than half an hour [Table/Fig-3].

During the hospital visit, 27 (30.6%) of the staff at registration counter while 30 (34.0%) of the staff at billing and cash was polite and helpful. Only 43 (48.8%) participants reported that a brief treatment plan was explained by doctor. Contrary to this, only 10 (11.3%)

Characteristics	Number (%)
<b>Age (years)</b>	
18-33	20 (22.7)
34-49	37 (42.0)
50-65	18 (20.5)
≥66	13 (14.8)
<b>Gender</b>	
Male	58 (66)
Female	30 (34.0)
<b>Education</b>	
Primary	22 (25.0)
Middle	16 (18.2)
High school	36 (40.9)
Intermediate	14 (15.9)
<b>Caste</b>	
General	45 (51.2)
Other backward caste	26 (29.5)
Schedule caste	17 (19.3)
<b>Religion</b>	
Hindu	46 (52.3)
Muslim	42 (47.7)
<b>Socio-economic status (modified BG Prasad Classification)</b>	
Class II (Upper middle)	23 (26.1)
Class III (Middle)	49 (55.7)
Class IV (Upper lower)	16 (18.2)

**[Table/Fig-1]:** Distribution of participants according to their biosocial characteristics (N=88).

Variables	Response	No. of participants N (%)
Direction's indicators	Excellent	15 (17.1)
	Very good	23 (26.1)
	Good	28 (31.8)
	Fair	5 (5.7)
	Poor	6 (6.8)
	Not sure	11 (12.5)
Department numbers and identifications	Excellent	18 (20.4)
	Very good	25 (28.4)
	Good	28 (31.9)
	Fair	07 (7.9)
	Poor	05 (5.7)
	Not sure	05 (5.7)
Sign board and instruction boards	Excellent	15 (17.1)
	Very good	20 (22.8)
	Good	29 (32.9)
	Fair	09 (10.3)
	Poor	08 (9.0)
	Not sure	07 (7.9)

**[Table/Fig-2]:** Response of participants regarding hospital informatory (N=88).

Waiting period	Response N (%)
Less than half an hour	47 (53.4)
Half an hour-1 hour	30 (34.1)
1-2 hour	08 (9.0)
More than 2 hour	03 (3.4)

**[Table/Fig-3]:** Waiting period between arrival at OPD and attended by doctor (N=88).

respondents were explained side effects of the medicine by the doctor. Majority {63 (71.5%)} of respondents got the opportunity to ask questions about disease and treatment [Table/Fig-4].

Response of participants	Yes N (%)
Staff at registration counter was polite and helpful	27 (30.6)
The doctor was courteous towards you	36 (40.9)
Doctor explained your treatment	43 (48.8)
Side effects of the medicine explained to you by the doctor	10 (11.3)
You were informed about various packages, rules and schemes/rates	15 (17.0)
Opportunity to ask questions about your disease and treatment	63 (71.5)
Billing and cash staff was polite enough	30 (34.0)

**[Table/Fig-4]:** Response of participants regarding hospital visit (N=88).

More than half of the respondents 46 (52.2%) reported that paramedical staff was prompt in providing help whenever needed and showed their concern towards the patients, whereas 29 (32.9%) of them were satisfied with the promptness in attending to the patient in need by the paramedical staff. Most of the respondent {50 (56.8%)} said that hospital staff listened to their questions and problems [Table/Fig-5].

Response of participants	Yes N (%)
Courtesy, concern and help by the paramedical staff	46 (52.2)
Responsiveness of paramedical staff to your needs: promptness in attending you	29 (32.9)
Paramedical staff listen to your question and problems	50 (56.8)

**[Table/Fig-5]:** Response of patients regarding paramedical staff (N=88).

Around 68 (77.2%) respondent were not satisfied with behaviour of hospital staff (nurses and paramedical staff) whereas only 35 (39.8%) respondent were satisfied with the behaviour of treating doctor. More than half 58 (65.9%) were satisfied with the cost of given treatment [Table/Fig-6].

Quality of services	Yes N (%)	No N (%)
Satisfaction with behaviour of hospital staff (nurses and paramedical staff)	20 (22.8)	68 (77.2)
Satisfaction with behaviour of treating doctor	35 (39.8)	53 (60.2)
Satisfaction with cost of treatment	58 (65.9)	30 (34.1)
Overall satisfaction regarding hospital services and hospital staff	31 (35.2)	57 (64.8)
Would you motivate your friends/relatives to visit this health-centre	30 (34.0)	58 (65.9)

**[Table/Fig-6]:** Satisfaction of patients regarding quality of services (N=88).

Statistically significant association was found in-between patient satisfaction and socio-demographic variable like age, sex, education, socio-economic status where p-value <0.05 [Table/Fig-7].

Socio-demographic variables	Yes (n=31)	No (n=57)	Statistical test
<b>Age (years)</b>			
18-33	9	11	Chi-square value=7.55,df=3, p-value=0.05
34-49	7	30	
50-65	9	9	
≥66	6	7	
<b>Sex</b>			
Male	15	43	Chi-square value=6.54,df=1, p-value=0.01
Female	16	14	
<b>Education</b>			
Primary	6	16	Chi-square value=7.95,df=3, p-value=0.04
Middle	7	9	
High school	9	27	
Intermediate	9	5	
<b>Religion</b>			
Hindu	12	34	Chi-square value=3.52,df=1, p-value=0.06
Muslim	19	23	

<b>Caste</b>			
General	11	34	Chi-square value=5.04,df=2, p-value=0.08
Other backward caste	13	13	
Schedule caste	7	10	
<b>Socio-economic status (modified BG Prasad Classification)</b>			
Class II (upper middle)	12	11	Chi-square value=5.88,df=2, p-value=0.05
Class III (middle)	12	37	
Class IV (upper lower)	7	9	

**[Table/Fig-7]:** Association of overall patient satisfaction with socio-demographic variables.  
Chi-square test, p-value <0.05 was considered as statistically significant

## DISCUSSION

Quality care is one of the major pillars of public health. One of the basic rights of the patients in a hospital is to have good quality care which needs to be fulfilled at the earliest and at the proper time. In present study various parameters in relation to services provided to the patients and their attendees were analysed.

On analysing the demographic status in the present study, 58 (65.9%) were males, 36 (40.9%) were educated upto high school, 49 (55.6%) participants were from social class III which was in contrast to a study done in primary urban health centre, Bareilly, where out of 292 respondents attending the outdoor departments majority of the study population comprised of females (60.6%), illiterate (30.5%) and belonging to lower socio-economic status (51.7%) [12]. This may be due to different hospital setting. Socio-demographic variables are important indicators for of patients' experience with hospital facility and treatment. Information on Education and socio-economic status which may also influence patients' satisfaction with the healthcare system. According to study done by Dayasiri MBKC and Lekamge ELS, it was evident that demographic factors such as age, gender, education level and socio-economic status in Asian hospitals play a major role as prognosticators of satisfaction of patient with quality of health care [13].

In the present study, the way to various departments as depicted by signboards and various directions directing towards the respective departments in the hospital was satisfactory, since majority of the patients found it to be within 'excellent' to 'good' categories. Few patients may have found it to be below satisfaction because of the usage of English language on the sign boards and also no hospital personnel were available to guide the patient or attendant to reach the concerned department. On the contrary, another study conveyed that 93% of the participants had no difficulty in finding the hospital and 87% of the participants had no difficulty in locating different departments within the hospital [14]. While other study done on patient satisfaction on quality of outpatient care reported that 31.4% respondents had difficulty in finding the department [15]. According to the clinicians, quality of care was to provide medical care technically, however, according to the consumers, it is clear that attitudes as well as infrastructure needs to be improved specially in public sector hospitals.

In the present study, 47 (53.4%) reported that waiting period was less than half an hour, this could be due to better time management of working at the health centre. This figure can be improved by giving prior appointment to the patient at registration counter and also informing any changes to the OPD schedule, if any, beforehand. Along with this number of OPD visits of the patients will also affect the waiting time of the patient. Visits will affect the appointments of all the patients waiting. On the other hand, the study done in Bareilly by Gupta SB and Singh JP, where 326 (92.1%) participants responded that waiting period was less than 30 minutes between arrival at OPD and attended by doctor [16]. In contrast to the present study, Kumari R et al., [11] and Prasanna KS et al., [17] showed that 22.55% and 20% respectively had to wait for less than 30 minutes. While another study done in tertiary care

hospital reported 64% of study participants showed admission and allotment of rooms within 30 minutes [18]. A study done in surgical department of southern state of Nigeria found that on analysing the experience of 48 patients, 28 (58.33%) patients replied that waiting time was less than 15 minutes [19]. One of the speed breakers in satisfying the patients in terms of providing quality care is the time that they spend in waiting for the doctors to examine them. More is the waiting time in hospital greater is the dissatisfaction among patients and thus this has led to difficulty for the management of the hospital to attract more patients for their improved business. More efforts are required by the hospitals to increase the patient load if individuals are dissatisfied.

In the present study, more than half of the respondents (52.2%) reported that paramedical staff was prompt in providing help whenever needed and showed their concern towards the patients while on the other hand, findings were reported from primary urban health centre, Bareilly (part of tertiary care centre) where patients were more satisfied with behaviour of Class III and Class IV workers (89.7%) as compared to the behaviour of doctors (78.4%) [12]. In the present study, 35 (39.7%) patients were satisfied with behaviour of doctors. The level of satisfaction in this study was contrary to the findings of studies done by Holikatti PC et al., (55.3%), Asraf M et al., where (satisfaction level was 61%) [20,21]. Another study done by Nilakantam RS et al., found that satisfaction level of the patients (90%) was good in terms of care given by doctor, the way they listened to the patient's problems and also discussed the treatment to be given [22]. The similar findings were reported by Verma N et al., where 84% of the patients expressed their satisfaction in response to the description of disease status by doctors [23]. In a study by Kulkarni MV et al., where patients were more satisfied with the behaviour of doctors (87.8%) [24]. Another study done by Bhattacharya A et al., for study of patient satisfaction in a tertiary referral hospital also reported 98.2% of patients were satisfied with the behaviour of doctors [6]. Similarly, Khatun A et al., in Dhaka reported a satisfaction level of 65.8% and Abbasi-Moghaddam MA et al., in Tehran found a satisfaction level of 57.5% [25,26]. Patient satisfaction with doctor-patient interaction is an indicator of physicians' competence. The most important factor determining the relation between patient and doctor is behaviour of the doctor from patient's perspective which is determined by the honest concern of the doctor about the wellbeing of the patient. If according to patient perspective, doctor is rude and is not concerned about the wellbeing the patient then rapport is lost and no trust is gained. A study done in Madhya Pradesh [27] regarding patient satisfaction in OPD regarding professional care and depth of relationship it was observed that 68% of respondents were satisfied with examination by doctors, 62% said doctor explain everything about treatment and were satisfied which was in contrast to present study where 43(48.8%) respondents said that doctor explained treatment and 10(11.3%) replied that doctors explained side effects of the medicine to patient. A survey on patient satisfaction in Emergency department, Iran by Soleimanpour H. et al, reported that 49.4% patients felt 'very good' in regard to the information given by care provider about medication [28]. In the present study, only 15 (17.0%) respondents were informed about various packages, rules and schemes/rates whereas Mishra PH and Mishra T, reported that 90% people were satisfied with the briefing about rules and regulations at the time of admission. It was observed that the briefing about the rules and regulations of hospital had got 10% 'average' and 20% 'poor' response. It was the biggest dissatisfier [29]. To measure whether health care needs of the consumer is met or not, satisfaction of the patient is the best indicator. Every patient has some expectations regarding the care provided by the hospital before their visit and their actual experience decides the final outcome in the form of satisfaction or dissatisfaction and this data imitates care delivered by hospital and is helpful in decision-making.

While assessing the overall satisfaction of patients with socio-demographic variables, age, gender, education, socio-economic status, it was found to be statistically significant. The study done by Gupta SB and Singh JP also found a significant relationship between the education, sex, socio-economic status of the patient and satisfaction level for health facility [16]. Similar results were obtained by other studies too [10,30-33] which showed age, gender and the level of education, as the predictors of patient satisfaction with hospital health care. Contrast to this, finding of studies conducted by Crow BR et al., and Hall JA and Dornan MC which revealed that there was no significant association between the patient satisfaction with socio-demographic variables [34,35]. Socio-demographic variables had no influential role in determining patient satisfaction reported in study done by Bhanu PS et al., and Chakraborty SN et al., [36,37]. Every person has his own perception, personality and socio-economic status. These parameters largely affect the responses of the patients and the responses can vary between satisfaction with average services to dissatisfaction with the best care provided. Hospitals have started realising that quality of services needs to be improved in order to maintain their rapport. Patient's perspective on quality of care provided thus plays a vital role while selecting a hospital.

### Limitation(s)

The convenience sampling technique adopted for the study restricts the representation of all patients of the hospital, and thus will affect the generalisation of the study findings. The current study catered only outdoor patients. To evaluate the actual quality of services it should have included indoor and emergency services also. Second, specialty ward wise services could not be compared due to time constraints. Third, the findings emerging out of the current study cannot be generalised or extrapolated to all other hospitals of India as the satisfaction levels of patients will be different in different studies.

### CONCLUSION(S)

Among the different domains of measurements of patient satisfaction, only few were satisfied with hospital doctor's and paramedical staff. Doctor's time, behaviour of paramedical staff and poor quality of services were the main reasons for dissatisfaction among dissatisfied patients. The present study also revealed that socio-demographic variables or previous exposure had influential role in determining patient satisfaction. The study findings can aid in the development of targeted, objectively prioritised programs for the improvement of health care delivery in such centres.

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#### PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Department of Community Medicine, Autonomous State Medical College and Allied Pt. Ram Prasad Bismil Memorial Hospital, Shahjahanpur, Uttar Pradesh, India.
2. Associate Professor, Department of Community Medicine, T.S. Misra Medical College and Hospital, Lucknow, Uttar Pradesh, India.
3. Associate Professor, Department of Community Medicine, Government Institute of Medical Science, Noida, Uttar Pradesh, India.
4. Associate Professor, Department of Pharmacology, Rohilkhand Medical College and Hospital, Bareilly, Uttar Pradesh, India.

#### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Anju Saxena,  
S B 535, Civil Lines, Rampur Garden, Behind Uttam Public School,  
Bareilly, Uttar Pradesh, India.  
E-mail: dranjusaxena86@gmail.com

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