



Patient satisfaction survey of microbiological tests done in G.B. Pant Hospital

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Abstract

Purpose – Measuring patient satisfaction plays an increasingly important role in the growing push toward healthcare provider accountability. This study seeks to evaluate G.B. Pant Hospital (a North Indian tertiary care centre) patient satisfaction with clinical laboratory services.

Design/methodology/approach – A total of 100 out- and in-patients were randomly selected and interviewed about microbiological services using a standard format, a method which can be easily used to compare patient satisfaction with laboratory services elsewhere.

Findings – Patients represented all age groups: females and males were balanced. Few were from poor socio-economic backgrounds. Patients do not have problems getting tests done, but the laboratory's inconvenient location caused dissatisfaction. Patients do not have problems communicating with staff, but medical terms are not understood by patients. Hospital cleanliness needs improving, especially toilets, which causes the most patient dissatisfaction. Hospital staff were deemed highly competent and judged to give excellent technical help to patients. The questionnaire's financial subscale shows 100 per cent satisfaction because all tests in the microbiology department are free. The overall satisfaction with services stood at 83 per cent. Satisfaction scores for G.B. Pant Hospital appear to be satisfactory.

Research limitations/implications – This study does not compare patient satisfaction in two or more hospitals and findings may not be generalisable.

Practical implications – Patient satisfaction surveys are the best way to identify deficiencies and improve hospital services. Repeating studies at six monthly intervals is a useful managerial intervention aimed at delivering and maintaining quality healthcare.

Originality/value – This laboratory satisfaction survey is the first of its kind for government hospitals in India. The survey revealed a positive feedback and helped to identify the areas of concern along with estimating the patient satisfaction scores. This is the best way to identify the areas of deficiencies and improving the services provided by the hospital. The authors feel that repeating such studies at a regular interval of six months would be a useful guide for the managerial interventions.

Keywords Patient satisfaction, Microbiology department, India, Patients, Health care, Hospital services, Customer satisfaction

Paper type Research paper

Introduction

Every human has particular thoughts, feelings and needs. Satisfaction, therefore, is an important element when evaluating services. It refers to contentment, fulfilled desires, needs and expectations. Satisfaction is about matching past experience with expected reward. In general, patients expect comfort, care and cure from hospital treatment (Sreenivas and Prasad, 2003). The patient's wish list is valuable to those who want to know the real person. Though it is difficult, patients can be satisfied if we accept that



there are service that could be altered (Paine, 1989), such as providing proper guidance at the reception, listening to patient complaints, asking questions and answering queries and providing patients with a clean and hygienic environment. Doing something extra for each patient and by admitting mistakes gracefully will go a long way to providing satisfactory services. Other factors influencing patient satisfaction include: adequate staffing; facilities and equipment; workload; and staff behavior; managers who make the policies; administrator leadership styles; communication channels, etc., (Sreenivas and Prasad, 2003).

Literature review

While satisfaction data are still being used primarily to monitor and improve services, some hospital staff are beginning to ask more sophisticated, clinically-oriented questions, such as whether a person felt safe during hospitalization and whether he/she observed medical errors. As measurement science improves, we will have to ask patients their concerns in these areas. In the USA, health plans include annually measuring patient satisfaction as an external review and accreditation requirement by the National Committee for Quality Assurance (NCQA). The NCQA staff developed a member satisfaction survey as part of the Healthcare Effectiveness Data and Information Set quality standards, as well as a recently updated version based on federal Consumer Assessment of Health Plans Survey (CAHPS), which is currently used to assess care provided by health plans covering over 123 million Americans (Guagagnino, 2003).

Indian hospital administration research is still in its infancy. Studies relating to patient behavior and satisfaction are infrequent. Important studies carried out in India include a study by Rao *et al.* (2006), who concluded that better interpersonal skills; infrastructure; waiting time; and drugs availability are more likely to improve patient satisfaction in India's public health facilities. In another study, Chaskar (1997) examined patient satisfaction, complaints and hospital image issues pointed out by patients. Veera Prasad (1997) examined why hospital administrators should take patient-satisfaction seriously as a hospital service quality measure. Timmappaya (1971) established a relationship between hospital status, employee satisfaction and services leading to patient satisfaction. Trakroo (1977) studied factors affecting outpatient satisfaction levels. Sodani *et al.* (2010) and Kumari *et al.* (2009) compared patient satisfaction at lower and higher quality healthcare facilities, suggesting ways to improve service quality. Another patient satisfaction survey (IHS, 1999) in the Andhra Pradesh Vaidya Vidhana Parishad (APVVP) District and area hospitals found patients were concerned about public hospitals (Mahapatra *et al.*, 2001). Sreenivas and Prasad (2003) compared patient satisfaction in three hospitals:

- (1) Osmania General, owned by the Government.
- (2) Deccan Hospitals Corporation Limited – privately managed.
- (3) Nizam's Medical Sciences Institute, which runs on corporate lines under state control.

Deccan Hospitals Corporation Limited had the best results (Sreenivas and Prasad, 2003).

Few laboratory service patient satisfaction studies have been reported. Mfinanga *et al.* (2008) in Tanzania found that waiting time, privacy, results notification,

cleanliness and poorly timed instructions caused most patient dissatisfaction. Muhondwa *et al.* (2008) found their laboratory services were satisfactory for most patients. A few were dissatisfied with poor services; underperforming technicians and inadequate equipment; high charges; and poor explanation. Kirk (2010) highlights the need for developing laboratory communication monitored by patient feedback cards. He suggests that these steps help improve laboratory Press Ganey Scores, which are electronically generated patient satisfaction scores. Here all patients' responses are converted into 100-point maximum scales so that clients can compare performance aspects on a common yardstick.

Aims and objectives

The main laboratory service quality issues emerging from the literature are:

- Patient satisfaction measures are advancing and becoming sophisticated in developing countries.
- Indian hospital administration research is still in its infancy; few patient satisfaction articles are available and few explore laboratory user satisfaction.
- No laboratory user satisfaction studies have been conducted in India.

Therefore, we were committed to improving hospital services by:

- Studying satisfaction among patients receiving hospital microbiological services.
- Understanding patient problems.
- Identifying technical and planning lapses.
- Recommending structural, planning and resources changes, thus meeting patient needs.

Method

Sampling

Keeping our study objectives in mind and to identify the factors influencing patient satisfaction in a super-specialty hospital providing tertiary medical care in neurology, gastrology, cardiology, neurosurgery, gastrosurgery and cardiothoracic surgery, we estimate a 200 patient sample size was needed; 100 out- and 100 in-patients staying seven days or more and needing microbiological laboratory services. Patients were selected using stratified random sampling from outpatient departments (OPD) and major wards. Factors such as age, sex, education, profession, income, etc., helped us derive patient demographics and social backgrounds.

Data collection

We conducted our survey between January and March 2008 using a questionnaire (Tables I to VII) formed from the Patient Satisfaction Questionnaire – III (PSQ-III) developed by Hays *et al.* (1987). A total of 15 PSQ-III questions were dropped since most were suitable for broader hospital rather than laboratory surveillance. Seven questions were added from the Mahapatra *et al.* (2001) questionnaire to assess technical service quality and general cleanliness. Ten specific questions, relevant to the G B Pant Hospital were added - structured questions similar to the PSQ-III items. Each question

Table I.
Access and convenience

Question ID	Item	Score (%)
MPSQ5	It is easy for you to get tests done in an emergency	87.3
MPSQ7	You are usually kept waiting for a long time when you need a microbiologist consultation	78.2
MPSQ16	It is hard for you to get tests done at short notice	84
MPSQ25	You have easy access to hospital microbiologists	92.6
MPSQ28	In hospital, people have to wait too long for emergency tests	90
MPSQ37	The laboratory is conveniently located	26.7
MPSQ 40	If you have a question, you can reach a doctor for help without problem	93.4
MPSQ51	You are able to get the tests done whenever you need it	94.1
GBPQ59	There are proper sign boards to the place where samples are collected	28.7
GBPQ61	Staff who take samples are usually available	89.4
GBPQ66	Test reports are easily available and timely at the collection center	94.1
	Mean	78.5

Table II.
Communication

Question Id	Item	Score (%)
MPSQ6	Doctors are good at explaining the reason for medical tests	92
MPSQ13	During your sample collection, you are always allowed to say everything you think is important	89.1
MPSQ18	Sometimes doctors use medical terms without explaining what they mean	34.4
MPSQ38	Doctors sometimes ignore what you tell them	82.7
MPSQ43	Laboratory staff listen carefully to what you say	83.4
	Mean	76.3

Table III.
General satisfaction

Question Id	Item	Score (%)
MPSQ3	You are satisfied with the medical care	88.1
MPSQ11	The medical care you have been receiving is just about perfect	90
MPSQ33	There are some things about medical testing that could be better	76.2
MPSQ42	All things considered, the medical care you received is excellent	92
MPSQ49	You are dissatisfied with some medical care you receive	83.3
IPSQ54	General cleanliness in the hospital is adequate	74
IPSQ55	Toilets are not maintained well in the hospital	29.7
IPSQ57	You feel comfortable with your hospital surroundings	74.3
GBPQ63	You are satisfied with the sitting arrangement in the waiting and sample collection area	85.1
GBPQ68	Proper drinking water is available in the collection centre and lab' premises	81
	Mean	77.4

was given an identifier; i.e. those from PSQ-III started with M; Mahapatra *et al.* (2001) questions with I; and G.B. Pant Hospital questions started with G. Those prefixed with XX represent question serial numbers. The overall questionnaire was divided into seven subscales:

Table IV.
Interpersonal aspects

Question Id	Item	Score (%)
MPSQ9	The doctors have a genuine interest in you as a person	86
MPSQ17	The lab staff and doctors should give you more respect	83.6
MPSQ29	Doctors act too business-like and impersonal towards you	83
MPSQ34	Doctors treat you in a very friendly and courteous manner	90.7
MPSQ39	When you are getting your tests done, staff should pay more attention to your privacy	85.3
MPSQ47	Doctors always do their best to keep you from worrying	80.9
IPSQ52	Laboratory staff help that you receive is excellent	86.2
IPSQ53	Laboratory staff act too business-like and impersonal	78
IPSQ56	Care you receive at the collection centre is adequate	76.1
IPSQ58	Laboratory staff are aloof and discourteous	82
GBPQ67	Staff issuing duplicate reports are courteous	78.4
	Mean	82.8

Table V.
Technical quality

Question Id	Item	Score (%)
MPSQ2	Doctors need to be more thorough when investigating you	84
MPSQ8	You think the laboratory has everything needed to provide complete medical care	92.1
MPSQ15	Staff are careful to check everything when investigating you	76.3
MPSQ31	Doctors never expose you to unnecessary risk	82.7
MPSQ45	You have some doubts about doctors' ability to investigate you	86.6
GBPQ60	You are given proper guidelines for collecting samples	74
GBPQ62	There were technical errors filling the requisition form and labeling the sample	92.4
GBPQ64	The technicians take adequate safety precautions while collecting blood samples	94.3
GBPQ65	Phlebotomists are expert at collecting blood samples	93.7
	Mean	86.2

Table VI.
Time spent with doctor

Question Id	Item	Score (%)
MPSQ35	Those providing medical care sometimes hurry to much	88.7
MPSQ46	Doctors usually spend enough time with you	92
	Mean	90.4

- (1) Access, availability and convenience (AAC).
- (2) Interpersonal aspects (IPA).
- (3) Communication (COM).
- (4) General satisfaction (GS).
- (5) Technical quality (TQ).
- (6) Time with doctor (TWD).
- (7) Financial aspects (FIN).

Table VII.
Financial aspects

Question ID	Item	Score (%)
MPSQ10	Sometimes there is a problem covering your share of the cost for a microbiological test	100
MPSQ14	You feel confident that you get the medical care you need without being set back financially	100
MPSQ19	Sometimes you go without the medical care you need because it is too expensive	100
MPSQ24	You had to pay more than you could afford for laboratory investigations	100
MPSQ32	The amount you have to spend for medical tests is reasonable	100
	Mean	100

Access, convenience and interpersonal subscales have items designed to help patients assess how staff work. Communication includes staff skills in this regard and also how attentive staff were to patient queries. The general satisfaction subscale includes items about general cleanliness, toilets, facilities and overall satisfaction with care. To avoid sequencing bias, question order was randomized. The PSQ uses both negative and positively framed questions for the same issue, which minimizes the framing effect (see Figure 1).

The scoring system was reversed for the positively framed question, so that a higher score represents satisfaction with hospital services. Thus a 1 or 2 score means patients are dissatisfied. Three means the respondent was uncertain. Scores 4 and 5 mean performance is good. Each question is referred as an “item” and all questions assessing one particular service aspect are grouped into a subscale. Percentages for each question were calculated based on responses and these were added to calculate the percentage satisfaction for their respective subscale. The total subscale score for every patient was calculated ($n = 200$). The average total subscale score represented the average actual scores. The composite scores were determined by summing the actual subscale scores.

Microbiology department personnel conducted the surveys. Questions were in the language with which the respondent was comfortable. The surveyor met the patient, explained and reassured him/her that the study’s purpose was to constructively assess and improve service quality. Privacy and confidentiality were stressed and that only statistical information will be used. If the patient was unable to answer questions then the attendant usually with the patient was asked. For example, in the case of minors, the parent/attendant was asked.

Negatively framed question: MPSQ28 – In hospital, people have to wait too long for emergency tests.

Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1	2	3	4	5

Figure 1.
The PSQ uses both
negative and positively
framed questions

Positively framed question: MPSQ5 – It is easy for you to get the tests done in an emergency.

Strongly agree	Agree	Uncertain	Disagree	Strongly Disagree
5	4	3	2	1

Results

A total of 200 patients were interviewed. Among these, 174 patients and 26 relatives were able to participate. Patients in the sample were from all age groups. Male and female respondents were balanced. Few patients were from poor socio-economic backgrounds. A total of 86 percent were above the poverty line, 52 percent being either businessmen or in government jobs and 83 percent belonged to the educated class with higher secondary or above qualifications. This distribution may reflect G.B. Pant Hospital's tertiary status and educated people being aware of its super-specialty status (Table VIII).

Table I shows that patients did not find it difficult to access doctors or microbiologists whenever they needed help. Most could get their tests done in an emergency or whenever they wanted. The reports were easily available and timely at the specimen collection center. However, we observed that proper signs directing patients to sample collection points or guiding them to the laboratory existed, but not to be located conveniently.

Table II shows patient satisfaction scores (76.3 percent) lower than other subscale scores owing to the huge patient load. Doctors tried to explain the reasons for medical tests but medical terms made it difficult for patients to understand. Doctors had no time to repeat the explanation. Collection center staff were not able to listen or guide patients because queues at the sample collection center were too long, which also causes dissatisfaction.

Table III subscale's mean score was 77.4 percent. Patients' response to MPSQ 33 yielded poor scores, but its positively framed complementary item (MPSQ11) received positive scores. Taken together, MPSQ33's poor score and MPSQ11's higher score can be attributed to the framing effect. The IPSQ54 item was about hospital general cleanliness and there are several poor scores for this question, especially toilet cleanliness. The hospital is government owned and the class III and IV employees are government employees who are reluctant to work because they are de-motivated. The other factor is that outpatient departments (OPD), wards and sample collection centers were overcrowded.

Table IV shows satisfactory scores (82.8 percent). Negative responses from patients were due to the OPD and sample collection center peak rush hour. Otherwise, staff were courteous towards patients.

The technical-quality mean score was 86.2 percent (Table V). Staff were competent when giving medical care in accordance with Bhattacharya *et al.* (2003) findings. Dissatisfaction is expressed in items MPSQ15 and MPSQ60 - patients were not told either orally or in writing regarding preparations they have to make for special

Ration card type	Percent	Occupation	Percent	Educational status	Percent
BPL	14	Labourer	28	Illiterate	6
APL	86	Housewife	7	Primary	11
Sex		Business	30	Secondary	43
Males	56	Govt. job	22	Graduate	31
Females	44	Student	13	Post-graduate	9

Notes: BPL = below poverty line; APL = above poverty line

Table VIII.
Respondent status

investigations or about the procedure for collecting specimens; e.g. patients are rarely told that the early morning urine brought for culture should be a mid-stream sample, which should be collected only after cleaning their genitals.

Patients were satisfied with the time doctors spent with them.

The reason for the 100 percent financial score in Table VII is that hospital laboratory services are free at the point of use and hospital staff are closely monitored by hospital authorities to prevent corruption. No patient mentioned giving bribes to laboratory staff to get tests done.

The average composite satisfaction score was 220 against a maximum possible 265. This gives an 83 percent overall satisfaction score (Table IX). Considering that these surveys usually tend to generate positive assessment from patients, G.B. Pant Hospital scores appear to be satisfactory.

Discussion

Importance increasingly is being attached to traditional custodian functions, but today, hospitals are recognized as social institutions. In this changed environment, patients become a focal point (Sreenivas and Prasad, 2003). Hence, hospital staff must strive for maximum patient satisfaction and provide patient-oriented services. Satisfaction gives the patient confidence to face his/her medical problems. It is the hospital administrators' responsibility, therefore, to keep patients and their attendants satisfied. Our study highlights the following problems:

- *Inconveniently located laboratory.* This problem, though less severe, is important and can be easily solved by: directional signs; proper guidance to the reception counter; an information booklet giving information about hospital services; and employing medico-social workers.
- *Waiting time and overcrowding.* To alleviate overcrowding, extra staff can be provided during peak hours.
- *Medical terms used by doctors.* Staff can be asked to use plain and simple language. He or she should try and find out if the patient has understood. If the doctors are overworked then guidance materials can be placed outside OPD rooms to explain the nature and the need for tests.
- *Toilets and surroundings are not clean.* This is an easily rectifiable problem. Authorities should check and supervise staff cleaning and maintaining the

Table IX.
Patient satisfaction
scores

Service component	Items	Maximum possible score	Actual score	Satisfaction level (%)
Composite score	53	265	220	83
Access, availability and convenience	11	55	43	78.1
Communications	5	25	19	76.3
Financial aspect	5	25	25	100
General satisfaction	10	50	39	77.4
Interpersonal aspects	11	55	46	82.8
Technical quality	9	45	39	86.2
Time spent with doctor	2	10	9	90.4

toilets. If government employees do not comply then responsibility for maintaining cleanliness can be contracted with private companies so that it becomes easier to check performance. The laboratory sample collection area and its surroundings should be clean and have proper seating for patients, which should be comfortable. The centre must have proper ventilation and lighting, a large TV screen showing programs like family planning, hygiene, preventive medical care, AIDS and other infectious diseases. Since the patients are sick, education and entertainment programs can include recreational activities, which help to reduce stress (Posen, 1995). Films about G.B. Pant Hospital, its services and achievements can be shown, which creates a better hospital and government image. Purified drinking water should be available in the reception and sample collection areas.

- *Guidelines for collecting samples.* If clinicians orders tests then they should tell patients about the proper sample collection procedures.

Conclusion

Measuring patient satisfaction, says Webster (Guagagnino, 2003), reinforces a quality ethos by alerting patients that hospital staff are accountable. It shows hospital staff that patients are pleased with service quality. From inception, patients attended G.B. Pant hospital not only because treatment costs are low but also because treatment is high quality. People from low and high socio-economic strata do not hesitate to use the institution's services. Correcting microbiology service dissatisfaction, discussed in this study, helps to improve the institution's prestige. This requires accurate planning, implementation and monitoring. This Indian government hospital laboratory satisfaction survey is the first, which revealed positive feedback but has helped identify areas that concern patients along with estimating their satisfaction scores. This is the best way to identify deficiencies and improve hospital services. We feel that repeating our study six-monthly would be a useful managerial intervention.

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