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Original Research Article

Patient's satisfaction with clinical laboratory services in a tertiary health care hospital of Jammu and Kashmir, India

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ABSTRACT

Background: A patient's satisfaction level is a crucial aspect of quality management in clinical laboratories. Satisfaction is the client's perception of care received compared with the care expected. Accreditation from an organization such as NABL or NABH is necessary. This study aimed to evaluate patient satisfaction with laboratory services in a tertiary care hospital in Jammu, UT of Jammu and Kashmir, India.
Methods: The study conducted a prospective cross-sectional patient satisfaction survey over six months w.e.f. April 2022 to September 2022 at 05 patients/day with monthly data (05×30=150). A total of 900 patients were selected randomly at 150 patients/month (150×6=900). Data was collected using structured questionnaire, entered in Epi Info and analysed with SPSS software. A p value of less than 0.05 was taken as statistically significant.
Results: The study found that 76.55% of patients were satisfied, while 11% were mildly dissatisfied and 17.94% were dissatisfied with laboratory services. Patients were dissatisfied with cleanliness of latrines (47%), long waiting times (30%), clear and understandable advisory service during specimen collection (26%), adequacy of waiting area (25%), easy accessibility of laboratory (19%), latrine location (20%), availability of requested service (18%), unfair payment of service (17%), and missing results (12%).
Conclusions: The study concluded that despite most patients being satisfied, there were gaps. The study recommends that the concerned departments to improve the identified gaps and meet patients' needs. Educational status and distance were found to be significantly associated with the overall satisfaction level of clients.

Keywords: Quality, Questionnaire, Satisfaction

INTRODUCTION

A medical laboratory is a facility where various medical tests and investigations are conducted to obtain information about a patient's health for the diagnosis, treatment, and prevention of diseases or infections. Medical laboratory services are essential in providing quality healthcare, as they provide critical data for disease diagnosis, treatment guidance, determining drug resistance, disease prevention and control, and identifying diseases of public health significance.[1] Laboratory accreditation by organizations such as the National Accreditation Board for Testing and Calibration Laboratories (NABL) and the National Accreditation Board for Hospitals and Healthcare Providers (NABH) is necessary to ensure the quality of laboratory services and improve laboratory performance to international standards.[2] Satisfied clients are more likely to comply with treatment, take an active role in their own care, continue using medical care services, and implement healthcare provider's recommendations.[3]

Monitoring patients' satisfaction is an important indicator of the quality management system required by laboratory quality standards, such as ISO 15189: 2012 and ISO 17025: 2017.[4] Comprehensive quality laboratory services

require multiple sources of support from patients, clinical service providers, managers, laboratory professionals, and other stakeholders. The needs and preferences of clients in the clinical laboratory must be addressed in the design and implementation of laboratory quality systems.

Several factors influence patients' satisfaction with healthcare services, including patients' socio-demographic characters, physical health status, patients' personal understanding and expectations from various healthcare services, the general physical appearance of the hospital, and the general environment of the premises.[5]

The results of laboratory tests have a significant impact on patients' care, as they influence physicians' decisions, including admission, drug orders, and discharge, as well as monitoring and managing the vast majority of diseases. Inappropriate test ordering can increase the risk of false positive results as well as medical errors. Overutilization can potentially cause patient discomfort, including phlebotomy-induced anemia. Underutilization can also result in delayed or missed diagnosis.[6]

In conclusion, laboratory services play a crucial role in the quality of healthcare provided to patients. Laboratory accreditation, monitoring patients' satisfaction, and appropriate test ordering are essential components of quality laboratory services. It is crucial to address the needs and preferences

The objective of this study was to assess patients' satisfaction with clinical laboratory services in a tertiary-level health care institution.

METHODS

Study design and area

The study was a six-month prospective cross-sectional study conducted from April to September 2022 at SMGS Hospital Jammu, a tertiary-care referral hospital in Jammu, providing clinical services in gynecology and obstetrics, pediatrics, ENT, and dermatology departments to ten adjoining districts of Jammu Province. The study aimed to determine the level of patient satisfaction with clinical laboratory services and the factors affecting their satisfaction.

Source population

The source population included all patients who received clinical and laboratory services from SMGS Hospital Jammu.

Inclusion and exclusion criteria

The study population included all patients who received laboratory services during the study period, except for pregnant females in the labor room undergoing parturition, critical patients in HDU/ICU and operated patients at operation theatres of gynecology and obstetrics department, thalassemia children on day care basis in pediatrics department, children <12 years in pediatrics department, and semiconscious and unconscious patients in the critical care unit of SMGS Hospital.

Data collection procedures

A pre-tested, structured, and interviewer-administered questionnaire based on Picker's experience questionnaire was used to collect data. The questionnaire included variables on socio-demographic and economic data, the length of time to take results, the availability of laboratory staff during working hours, location and cleanliness of health institutions (latrine and waiting areas), and others.

The satisfaction level was measured using a Likert scale ranging from dissatisfied (score-1) to mildly dissatisfied (score-2) and satisfied (score-3). The questionnaire was prepared in English and then translated into local languages (Hindi). Incharge consultants of pathology, biochemistry and microbiology laboratories were also incorporated into the study after detailing them the objective of the study and methods of the survey/observations.

Variables

Patient characteristics such as gender, dwelling, literacy, socio-economic status, and duration of stay were analyzed using the Chi-square test. $P<0.05$ indicated a significant difference among comparable factors of any variable, while $p>0.05$ indicated an insignificant difference among comparable factors of any variable. Data were collected in English and translated into Hindi, and the satisfaction level was measured using a Likert scale. The questionnaire included variables on socio-demographic and economic data, length of time to take results, availability of laboratory staff during working hours, location, and cleanliness of health institutions (latrine and waiting areas), and others. In charge consultants of pathology, biochemistry and microbiology laboratories were also incorporated into the study after detailing them the objective of the study and methods of the survey/observations.

Operational definition

Satisfaction level

Satisfaction is a complex concept that can be defined as the fulfilment of expectations in a given situation. It is influenced by various factors such as lifestyle, past experiences, and societal values. Clients' perception of the extent to which their requirements have been met determines their satisfaction level, which can range from high to low. A high satisfaction level is achieved when

customers feel their needs have been met, while a low satisfaction level arises when their needs are not met.[7]

Data quality assurance

To ensure data quality, data collectors and supervisors underwent training on selecting study participants and collecting data. The questionnaire was pretested to ensure its acceptability, comprehensibility, and understandability. Regular supervision and spot checks were carried out by regional supervisors.

Data entry and analysis

Data were entered into Epi Info version 7.2 and analyzed using SPSS version 23. A Likert scale rating of dissatisfied (1-point), mildly dissatisfied (2-points), and satisfied (3-points) was used. The mean satisfaction score for each participant was computed as the average of all satisfaction items. A score of <3 indicated dissatisfactions, while a score of 3 and >3 indicated satisfactions. The scoring scheme was developed by NIHAE for Indian hospitals.

Ethical considerations

Ethical clearance was obtained from the institutional ethics committee (IEC) of Government Medical College (GMC) Jammu (IEC/GMC/Cat C/2023/1290 dated 28/02/2023). Data was collected anonymously, without any personal identifiers. Study participants were informed of the study's purpose, and informed consent was obtained before administering the questionnaire. Participants were also informed of their right to refuse the interview at any time.

RESULTS

Socio-demographic characteristics of participants

Of the study participants, 77% were female and 68% were married. Approximately 41% of the participants lived in urban areas. Regarding educational status, 19% were illiterate, 43% had a high school education, 26% were college graduates, and 12% had post-graduate degrees. Almost 17% of the respondents were very poor, 31% were poor, 38% were average, and 14% were rich (Table 1).

Table 1: Distribution of socio-demographic profile of respondents at SMGS Hospital Jammu.

Socio-demographic profile of sampled patients (n=900)		
Characteristics	**Number (n=900)**	**Percentage (%)**
Gender		
Male	297	33
Female	693	77
Marital status		
Single	378	42
Married	612	68
Dwelling		
Urban	369	41
Rural	531	59
Literacy		
Illiterate	171	19
Matriculate	387	43
Graduate	234	26
Postgraduate	108	12
Socio-economic status		
Very poor	153	17
Poor	279	31
Average	342	38
Rich	126	14
Clinical specialty		
Gynecology and obstetrics	378	42
Paediatrics	261	29
ENT	99	11
Dermatology	162	18
Length of stay		
<5 days	567	63
6-10 days	225	25
>10 days	108	12

Detailed summary result is described:

Patients' satisfaction level with laboratory service

Overall satisfaction level

The overall satisfaction level was found to be 76.55%, with 11% of patients being mildly dissatisfied and 17.94% being dissatisfied. The blood collection process received the most dissatisfaction from patients due to multiple needle stick attempts and poor cleanliness of the latrine and facilities for putting personal items during sample collection. However, patients were satisfied with the presence of lab personnel at reception, courtesy of laboratory personnel, and rate list of tests displayed (Figure 1).

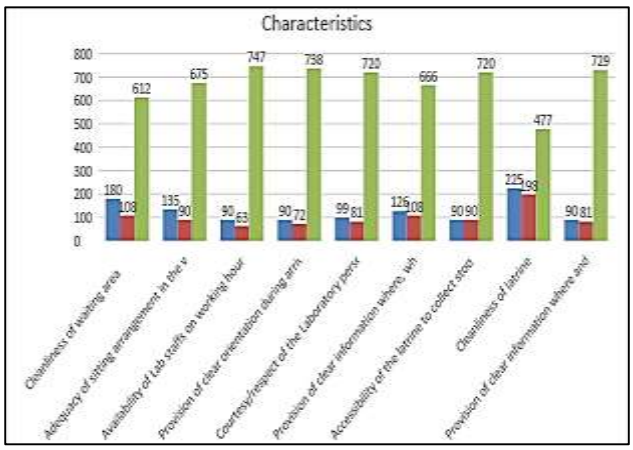

Figure 1: Respective score values of dissatisfied (1), mildly dissatisfied (2), and satisfied (3) among sampled patients (n=900) availing clinical laboratory services at SMGS Hospital Jammu.

Blue: score 1, red: score 2, green: score 3.

Patients' satisfaction with access to facilities

Patients faced difficulty finding the location of the laboratory, cashier office, and latrine, with 19%, 24%, and 20% of respondents reporting such difficulties, respectively.

Patients' satisfaction with cost of service

Patients were satisfied with the cost of services, with 78% of the respondents stating that the cost was fair.

Patients' satisfaction with sample collection process

Most patients (82%) received all requested laboratory services. Patients were satisfied with the availability of staff during working hours, the courtesy of lab personnel, and sitting arrangements in the waiting area. However, almost half of the respondents were dissatisfied with the cleanliness of the latrine.

Patients' satisfaction with waiting time

Most patients (70%) were informed about the turnaround time (TAT) for their test results, but 12% of them did not receive their results within the set TAT or lost their test reports (Figure 2).

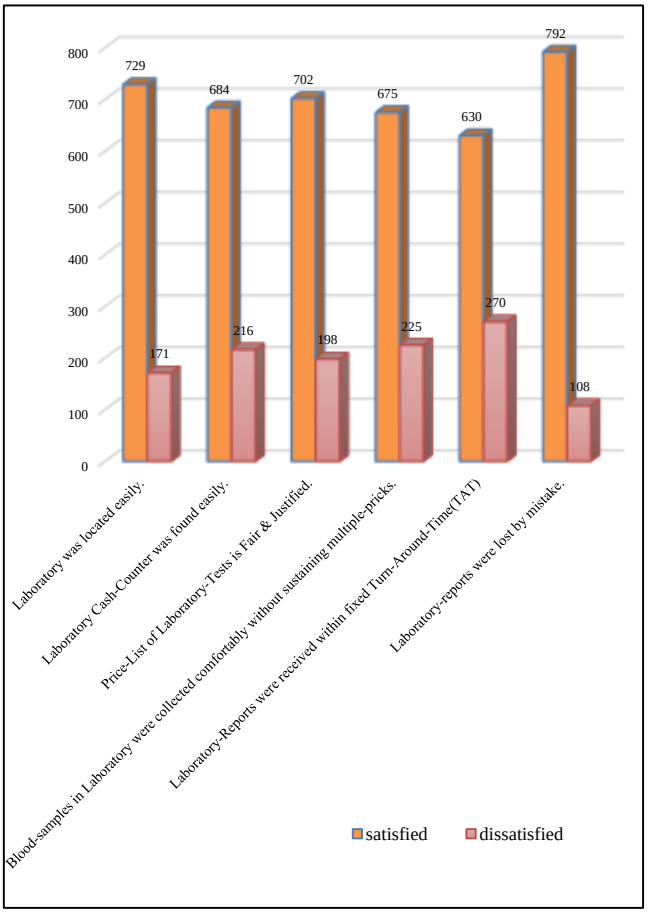

Figure 3: Respective score values of dissatisfied (1) and satisfied (3) among sampled patients (n=900) availing clinical laboratory services at SMGS Hospital Jammu.

Patient and laboratory personnel communication/ interaction

Around 80% of the respondents expressed satisfaction with the courtesy of laboratory personnel, but 18% of patients were dissatisfied with the advisory services provided before sample collection.

Patients' satisfaction with blood sample collection

75% of the respondents provided their blood samples satisfactorily for various laboratory tests, while 25% of patients were dissatisfied and left the blood collection area before the bleeding process stopped. Among the dissatisfied patients, 13% developed bruises, and 12% were punctured more than once.

DISCUSSION

Medical laboratories serve various customers, and measuring patient satisfaction levels is essential for identifying concerns about received services and views about new services that might be needed. The current study aimed to assess the level of patient satisfaction and outline possible associated factors with laboratory services at public hospitals.[8]

Clinical laboratories play a crucial role in improving patient care, and customer satisfaction surveys can identify factors that contribute to poor laboratory services. In recent years, hospital functions have become more specialized, leading to unrecognized areas of discontent. These discontents include the speed of sample collection, the skill of phlebotomy staff, lack of notification of changes in procedures, and inability to coordinate multiple tests for the same patient.[9]

In this study, the overall patient satisfaction level with medical laboratory services was 76.55%. However, around 19%, 24%, and 20% of the respondents reported difficulty in locating the laboratory, cashier office, and latrine, respectively, which negatively impacted their satisfaction. Additionally, up to half of the respondents were dissatisfied with the availability of requested services and lab personnel, as well as the courtesy.[8]

Turnaround time (TAT) is a crucial aspect of laboratory service, and it is critical that laboratories establish TATs for each examination that meet clinical needs and frequently assess whether they are meeting the established TATs in consultation with users. Effective communication with patients is also vital, and laboratory personnel must meet patients' needs and provide them with caring and considerate explanations that are simple and easy-to-understand.[9]

This study revealed that clinical laboratories in Jammu's health institutions need to improve the quality of their services. It is critical to take corrective actions to improve less satisfied service categories and continuously monitor laboratory activities. The blood collection process is a crucial factor that affects patient satisfaction, and it is essential for medical laboratories to train their blood collectors adequately to make the process more comfortable for patients.

In most healthcare systems, laboratories are commoditized and viewed as an industry rather than a medical specialty, leading to the perception that testing is easy due to automation. The increase in laboratory automation has reduced the number of laboratory errors in diagnostic test ordering and interpretation.[10]

Since the patients were interviewed in a hospital setting, they may have given responses that favoured the care provider, resulting in social desirability bias. Furthermore, no satisfaction studies have ever been published from private laboratories in our country, so we cannot compare our findings with those of private laboratories. Our study is limited to our patients, and a more powerful design would have been to evaluate the satisfaction levels of other laboratory customers. Ultimately, we should use the results of our evaluations to improve the weakest points of our services.

CONCLUSION

Patient satisfaction with laboratory services in public hospitals was generally high, but many patients were dissatisfied with various aspects of the service, such as accessibility, waiting times, cleanliness, staff courtesy, and information provision. To address these gaps, responsible bodies at all levels must take action and improve laboratory services to meet patients' needs. Regular satisfaction surveys should be conducted to gather feedback and improve the quality of services continuously. The results of the SMGS Hospital Jammu satisfaction survey offer valuable evidence to guide quality improvement efforts and enhance patient satisfaction with laboratory services.

Recommendations

To ensure quality laboratory services and a safe working environment, several measures should be implemented. Firstly, all laboratories should prominently display rate lists through flex boards and signage boards to provide clear guidance to patients. Competent sample collection and adherence to fixed turnaround times (TAT) are crucial for delivering authenticated test reports and maintaining service quality.

Furthermore, laboratory staff should follow proper dress codes to maintain professionalism and hygiene standards. They should also demonstrate exceptional courtesy when interacting with clients, fostering a positive and respectful environment. The site and location of laboratories must adhere to user department guidelines to ensure accessibility and convenience.

To promote efficient operations, laboratory staff should receive training to work in coordination and as a team. They should be oriented to clear emergency exit routes for laboratory equipment and be aware of safety protocols regarding the handling of dangerous chemicals. Contact with chemicals should be avoided, and staff should minimize their exposure to chemicals, assuming they are highly toxic.

During diagnostic procedures, only appropriately safe equipment should be used to ensure the safety of both staff and patients. Additionally, staff should prioritize their well-being by remaining calm and sober to reduce workplace stress.

Laboratory safety features such as showers, eyewash stations, and fire extinguishers should be properly

oriented and accessible. Regular inspections of toolkits and equipment are necessary to maintain the laboratory's functionality and safety.

Staff should verify medical procedures and diagnoses before proceeding with tests to ensure accurate results. Hand washing procedures must be strictly followed to maintain hygiene standards.

In case of accidents, staff should promptly implement safety protocols and report any incidents that occur in the laboratory. It is crucial to adhere to standard operating procedures (SOPs) without taking shortcuts to maintain consistency and accuracy.

Lastly, laboratory staff should be available at the reception counter throughout the day and night, ensuring that patients receive assistance and support whenever needed.

By implementing these measures, laboratories can enhance the quality of their services, maintain safety standards, and provide a positive experience for patients and staff alike.

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Ethical approval: The study was approved by the Institutional Ethics Committee of Government Medical College (GMC) Jammu (IEC/GMC/Cat C/2023/1290 dated 28/02/2023)

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