

# A baseline cross-sectional study to assess patient satisfaction (18–60 years) toward Apli Chikitsa (free of cost medical laboratory tests) services provided at an urban health training center: A PPP model

Shalini Rawat<sup>1</sup>, Rohan Sangam<sup>2</sup>, Pallavi Shelke<sup>2</sup>, Seema S Bansode Gokhe<sup>2</sup>

<sup>1</sup>Department of Community Medicine, Govt Doon Medical College, Dehradun, Uttarakhand, India,

<sup>2</sup>Department of Community Medicine, LTMMC & GH, Sion Hospital, Mumbai, Maharashtra, India

## ABSTRACT

**Introduction:** Assessing satisfaction with healthcare services is one of the cornerstone methods to evaluate success and identify obstacles during the process for the patients. Identifying crucial information helps in course correction and better healthcare delivery to the patients. Apli Chikitsa is a novel PPP model-based free of cost laboratory service made available to the patients by the municipal corporation. Around 150 blood tests are offered free of cost and through peripheral dispensaries to the patients. The present study was undertaken to assess the satisfaction of patients with the service and service-related aspects. **Methodology:** A cross-sectional observational urban health center-based study was undertaken to assess the satisfaction of patients toward the Apli Chikitsa laboratory service. Institutional ethics committee clearance was obtained before commencing the study. Four hundred patients availing of the laboratory services were enrolled by alternate sampling method. A semistructured questionnaire was administered; five-point Likert scale was used to assess satisfaction toward the service and related aspects. Results were summarized using tables and charts, and percentages and proportions were used wherever necessary. Data were analyzed using Microsoft Excel. **Results:** Among the study participants, overall satisfaction was observed among 71.25%, and 100% satisfaction was observed in relation to cost of service, maintenance of privacy and confidentiality, and getting all the requested tests done. The problem of overcrowding (96.75%) was observed by a majority. Satisfaction was low regarding the cleanliness of toilets (48.75%). **Conclusion:** Based on the findings, it can be concluded that the overall satisfaction is the Apli Chikitsa laboratory service is good, and it is a good model for replication for laboratory service delivery in peripheral areas away from tertiary care centers. Overcrowding should be managed, and cleanliness of toilets to done at frequent intervals, along with proper and visible use of signages, should be done to improve the satisfaction of the patients.

**Keywords:** Apli Chikitsa, laboratory services, patient satisfaction

## Introduction

In the ever-evolving landscape of healthcare, patient satisfaction has emerged as a critical metric to assess the quality of services

**Address for correspondence:** Dr. Shalini Rawat,  
Flat No 214, Sahastradhara Heights, Sahastradhara Road,  
Dehradun, Uttarakhand, India.  
E-mail: shalinimbbs89@gmail.com

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provided by healthcare institutions.<sup>[1]</sup> One integral component of the healthcare journey is the laboratory services offered by hospitals, as they play a pivotal role in diagnosing, monitoring, and managing various medical conditions. Patient satisfaction with laboratory services is not only indicative of the effectiveness and efficiency of these services but also a key determinant of overall patient experience and adherence to recommended treatment plans.<sup>[2]</sup>

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This study endeavors to delve into the realm of patient satisfaction with laboratory services within the context of a specific hospital, with the aim of shedding light on the factors that influence patients' perceptions and experiences.<sup>[1]</sup> By examining the drivers of satisfaction, identifying areas that need improvement, and exploring how the quality of laboratory services impacts overall patient outcomes and healthcare utilization, this research aims to provide valuable insights for healthcare providers and administrators seeking to enhance the quality of care and patient-centered services.<sup>[1,3]</sup>

Apli Chikitsa is a new endeavor started by the municipal corporation in a public–private partnership model to make laboratory services more accessible to the patients. The scheme is run at various dispensaries and urban health centers operated by the municipal corporation. The services offered are free of cost to the patient and are easily accessible to them. The idea behind it is to ease the load on tertiary care centers and make services more accessible and affordable to the patients. The present study aimed to assess the satisfaction of patients with the various aspects of laboratory services and gauge their satisfaction and perception toward the same.

## Methodology

A cross-sectional observational study was conducted among the patients availing laboratory services through the Apli Chikitsa scheme at the Urban Health center run under the Department of Community Medicine of a tertiary care hospital. Institutional ethics clearance was obtained before starting the study. Assuming a daily footfall of around 20–30 patients the monthly footfall comes to around 800–900 patients; therefore, every alternate patient was interviewed using a semistructured questionnaire till a minimum sample of 400 was reached during the data collection period of one month. Patients consenting and fulfilling the inclusion criteria were enrolled in the study. Five-point Likert scale and yes and no questions were used to assess the satisfaction of the patients. Data were summarized using tables, showing frequency and percentage distribution. These were analyzed using Microsoft Excel. Results of the Likert scale were clubbed into three options denoting satisfaction neutrality and dissatisfaction.

## Results

A total of 400 patients were interviewed in the study. Table 1 depicts gender-wise distribution. Participants were mostly female (55.75%) and the majority of them were Hindus (52.75%). In total, 23.25% of participants were educated up to middle school and 29% were illiterate. Maximum participants were in the age group of 40–60 years.

From Table 2, it is observed that the majority of the patients were satisfied with the cleanliness of the area (76%), provision of clear information about the reception of laboratory reports (68%), respect and courtesy of the laboratory staff (65.25%), cost of lab services (100%), and adequacy of sitting arrangement in the

**Table 1: Sociodemographic profile of study participants (n=400)**

	Frequency	Percentage
Sex		
Female	223	55.75
Male	177	44.25
Total	400	100
Religion		
Christian	17	4.25
Hindu	211	52.75
Muslim	172	43
Total	400	100
Education		
Illiterate	116	29
Primary	88	22
Middle school	93	23.25
High school	71	17.75
Intermediate	16	4
Graduate	16	4
Total	400	100
Age group		
<20 years	56	14
21–40 years	124	31
41–60 years	220	55
Total	400	100

waiting area (60.75%). Cleanliness of the toilets was the area where least satisfaction was observed (48.75%). Overall, 71.25% of patients were satisfied with the lab services while 15.5% were dissatisfied and 13.25% remained neutral.

From Table 3, it is observed that the majority of the patients felt that privacy and confidentiality were maintained (100%) and that they got all the requested tests done (100%); regarding the availability of staff, majority (96%) said that it was available on time, 74.75% knew about the laboratory timings, and 91.5% were satisfied with it. In total, 84.25% said they got their results on assured time and 96.5% said the blood drawing area was clean. The problem of overcrowding was reported by 96.75%.

## Discussion

The main aim of the study was to ascertain the satisfaction of the patients with the various aspects of laboratory services offered through the Apli Chikitsa scheme run by the Municipal corporation at the urban health center.

Cleanliness is one of the important factors affecting overall satisfaction of any healthcare-related service availed by the patient; as far as laboratory services are concerned, it is imperative that the area is kept clean and tidy; during the study, majority (76%) of the participants were satisfied with the cleanliness of the area; satisfaction here was better than that observed by Bilal Khalid *et al.*,<sup>[4]</sup> Hailu *et al.*,<sup>[5]</sup> and Abera *et al.*<sup>[6]</sup> (19%, 62.5%, 49.5%) but less than Mekonnen *et al.*<sup>[7]</sup> (93.4%) and Bogale *et al.*<sup>[8]</sup>

**Table 2: Parameters for satisfaction assessment (n=400)**

Parameter	Satisfied		Neutral		Dissatisfied	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Cleanliness of waiting area	304	76.00%	63	15.75%	33	8.25%
Provision of clear information where and when you receive a laboratory report	272	68.00%	111	27.75%	17	4.25%
Respect and courtesy of the staff	257	64.25%	143	35.75%	0	0.00%
The cost of laboratory service	400	100.00%	0	0.00%	0	0.00%
Are you satisfied with cleanliness of toilets	195	48.75%	205	51.25%	0	0.00%
Adequacy of sitting arrangement in waiting area	243	60.75%	141	35.25%	16	4.00%
Overall satisfaction with laboratory services	285	71.25%	53	13.25%	62	15.50%

**Table 3: Assessment of other laboratory services related aspects (n=400)**

Parameter	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Maintaining privacy and confidentiality	400	100.00%	0	0.00%
Get all the lab services that the physician requested	400	100.00%	0	0.00%
Availability of lab staffs on working hours	384	96.00%	16	4.00%
Did you know about the lab timings ?	299	74.75%	101	25.25%
Are you satisfied about the lab timings ?	366	91.50%	64	16.00%
Did you get any help of signages to find the lab	186	46.50%	214	53.50%
Receive lab result within agreed time	337	84.25%	63	15.75%
Cleanliness of blood drawing area	386	96.50%	14	3.50%
Problem of overcrowding	387	96.75%	13	3.25%

Another aspect that has an impact on satisfaction is the behavior of healthcare staff toward patients; in the present study, 64.25% of patients were satisfied with the courtesy and respect shown by the laboratory staff; this is better than that observed by Bilkish *et al.*,<sup>[9]</sup> Bilal Khalid *et al.*,<sup>[4]</sup> Abera *et al.*<sup>[6]</sup> and comparable to that of Hailu *et al.*<sup>[5]</sup> (56.05%, 49.6%, 54.3%), but less than that observed by Sodani *et al.*,<sup>[10]</sup> Sumeet Singh *et al.*,<sup>[11]</sup> Qadri *et al.*,<sup>[12]</sup> and Mekonnen *et al.*<sup>[7]</sup> The difference can be because there is only one staff available for blood collection and processing of samples, which increases the workload. Shortage of staff and the increasing footfall can have an adverse impact on the overall behavior of the laboratory staff.

Cost of healthcare is another important aspect that has a major bearing on the level of satisfaction among patients, especially in middle- and low-income countries. In the present study, since all the services are provided free of cost 100% of the participants were satisfied with it; this is better than that observed by Hailu *et al.*,<sup>[5]</sup> Qadri *et al.*,<sup>[12]</sup> and Abera *et al.*<sup>[6]</sup> (83%, 78%, 86.5%) and similar to that observed by Bhargava *et al.*<sup>[13]</sup> (100%) where services are provided free of cost.

Along with clean surroundings, cleanliness of toilets also makes a difference especially when it comes to laboratory services; in the present study, the satisfaction level observed was 48.75%, which was better than that observed by Bilal *et al.*,<sup>[4]</sup> Hailu *et al.*,<sup>[5]</sup> and Mekonnen *et al.*<sup>[7]</sup> and similar to that observed by Abera *et al.*<sup>[6]</sup> (3.3%, 28.3%, 41.1%, and 49.5%). Toilet cleanliness still was not up to the mark and shortage of staff and increasing footfall at the facility can be the probable causes for it.

For a laboratory to function effectively, there should be a proper and adequate sitting arrangement in the waiting area; in the present study, 60.75% of patients were satisfied with the sitting facility made available in the waiting area; this is better than that observed by Bilal *et al.*<sup>[4]</sup> and Abera *et al.*<sup>[6]</sup> (34.5%, 61.5%). All the patients were satisfied with respect to getting all their requested tests done at the facility; this finding is better than that of Hailu *et al.*<sup>[5]</sup> (82.28%); 96% were satisfied with the availability of laboratory staff during working hours; this was better than that observed by Bilal *et al.*,<sup>[4]</sup> and Hailu *et al.*<sup>[5]</sup> (67.3%, 77.3%) and similar to that observed by Mekonnen *et al.*<sup>[7]</sup> and Sumeet Singh *et al.*<sup>[11]</sup> (92.5%, 98%). Along with all these criteria when it comes to laboratory services, timely reporting of test results is just as important as collecting samples properly; in the present study, 84.25% of participants were satisfied with the reception of timely lab results; the finding was better than that of Bilkish *et al.*,<sup>[9]</sup> Hailu *et al.*,<sup>[5]</sup> and Abera *et al.*<sup>[6]</sup> and similar to that observed by Sumeet Singh *et al.*<sup>[11]</sup> (62.56%, 70.18%, 61.5%, and 84%). Satisfaction related to the cleanliness of the blood drawing area was high at 96.5%, which was better than that observed by Bilal Khalid *et al.*<sup>[4]</sup> and Abera *et al.*<sup>[6]</sup> (25.3%, 56.7%).

As with many government-run healthcare facilities in a metropolitan city, overcrowding was reported by the majority of the patients (96.75%); findings from Sodani *et al.*<sup>[10]</sup> are better than the present study where less proportion reported the problem of overcrowding (39.5%). Overcrowding can be attributed to the small space allocated to the laboratory facility and the increasing number of patients attending the facility from the public as well as private sector. Since laboratory services are offered free of cost by the municipal corporation many patients

even from the private sector get referred here contributing to the overcrowding problem.

Regarding other aspects of laboratory services, the majority of the patients were satisfied with the provision of clear information of where and when to receive the lab reports, maintenance of confidentiality and privacy of the patients, and laboratory timings (68%, 100%, 74.75%). However, satisfaction was less when asked about getting any help from signages in locating the laboratory (46.5%).

Overall satisfaction observed with laboratory services was 71.25%; this was better than that observed by Bilal Khalid *et al.*,<sup>[4]</sup> and Abera *et al.*<sup>[6]</sup> (4.8%, 45.3%), similar to that observed by Hailu *et al.*<sup>[5]</sup> (78.6%) but less than that observed by Sodani *et al.*<sup>[10]</sup> and Qadri *et al.* at<sup>[12]</sup> (100%, 84.2%); different locations of the study areas, different socioeconomic conditions prevailing, and differing models of healthcare delivery can be the factors responsible for the differences in overall satisfaction observed.

## Conclusion

Based on the findings of the study, it can be concluded that the PPP model and implementation of the Apli Chikitsa scheme have acceptable satisfaction among the patients. Free-of-cost laboratory services, provision of clear and precise information related to laboratory results, and courteous and respectful behavior of laboratory staff all contribute toward the increased satisfaction of the patients. Along with that, maintenance of privacy and confidentiality, providing all the necessary tests, cleanliness of waiting and blood drawing areas, and timely delivery of the results have a positive impact on the overall satisfaction of the patients. Overcrowding, insufficient signages for lab location, and poor cleanliness of the toilets are areas where less satisfaction was observed. This model can be replicated at other healthcare centers where primary care physicians can refer patients for different basic investigations and get the desired test results on time for timely initiation of treatment and referrals.

## Recommendation

From the findings of the study, it can be recommended that the Apli Chikitsa scheme offers a good level of satisfaction among the patients and can be replicated as a PPP model for providing laboratory services at places away from tertiary care centers. Some areas which need improvement are overcrowding, cleanliness of toilets, and signages for locating the lab. Recruiting more healthcare personnel, viz., laboratory technicians can help improve the service provision. Sitting arrangements can be made better by installing adequate benches for patient comfort. Overall, the experience of implementation of the Apli Chikitsa laboratory scheme seems to be a positive and encouraging one.

## Limitations

The findings of the study cannot be generalized as they are based on a single-center study with a limited sample size.

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## Code of ethics

The study was approved by the IEC. Code of ethics was followed at all stages of the study.

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## Conflicts of interest

There are no conflicts of interest.

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