

Voice of Laboratory Professionals: Surveying Laboratory-Clinician Interactions in Nepal

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Abstract

Background & Objectives

The interaction between laboratory personnel and clinicians is crucial for effective patient care. This study aimed to explore the nature and effectiveness of such interactions by surveying laboratory professionals in Nepal.

Methods

A cross-sectional survey was conducted using a self-administered questionnaire (attached), which was distributed to participants during the annual congress of the Nepalese Association for Clinical Chemistry in April 2024. A total of 32 complete responses were collected for analysis.

Results

The survey found that daily communication between laboratory personnel and clinicians occurred in 37.5% of cases, primarily for test result discussions, case consultations, and test requisition clarifications. Over half of the respondents rated communication as effective or very effective. However, barriers such as unclear communication, time constraints, and differences in understanding of results were identified.

Interpretation & Conclusion

This survey highlights the need for better communication between lab personnel and physicians in Nepal. Strategies such as regular meetings, educational initiatives, and standardized protocols

can improve collaboration, advance laboratory medicine, and enhance lab professionals' role in patient care.

Keywords: Laboratory clinician interaction; Patient care; Survey; Nepalese Association for Clinical Chemistry (NACC)

Introduction

In clinical settings, laboratory personnel and clinicians need to work closely together to ensure accurate test interpretation, timely decision-making, and appropriate patient management. There are various reports which highlight the importance of active communication between laboratory physicians and clinicians thus saving patient lives (1). Despite the significance of this collaboration, studies indicate that communication gaps and a lack of structured interaction may hinder optimal patient care (2).

In current Nepalese healthcare settings, the role of laboratory personnel has evolved beyond merely processing test results to become integral partners in patient management (3). This evolution necessitates a collaborative approach, where laboratory professionals and clinicians work closely to interpret test results, discuss patient cases, and make informed decisions. However, challenges such as time constraints, unclear communication channels, and varying levels of understanding of laboratory data often hinder effective collaboration. Despite the recognized importance of this interaction, there is limited data on how these collaborations function in the Nepalese context, what challenges are faced, and what opportunities exist for improvement.

By surveying registered laboratory professionals, this research provides insights into the current challenges, the existing practices, and potential strategies for improvement. Understanding these factors is crucial to fostering a more integrated approach to patient care, ultimately contributing to the advancement of laboratory medicine in the country.

Method

This study employed a cross-sectional survey design which was conducted during the annual congress of the Nepalese Association for Clinical Chemistry (NACC) held in April 2024 in Kathmandu (4). The target population consisted of registered laboratory professionals from various clinical laboratories throughout the country. A structured; self-administered questionnaire was developed for data collection. The questionnaire consisted of 10 questions (Attached as a Supplementary document) focusing on aspects of clinical and laboratory interaction, including the frequency and purpose of communication, effectiveness, challenges faced, and suggestions for improvement. The questions were developed based on a review of relevant literature and expert consultation in the field of laboratory medicine. The questionnaire was reviewed and approved by an independent expert in laboratory medicine to ensure its validity. All participants provided informed consent before completing the questionnaire. Participation in the survey was voluntary, and anonymity and confidentiality were strictly maintained throughout the study.

The questionnaire was distributed in printed form to the attendees during the congress. Respondents were allowed to select multiple options where applicable, and the responses were collected and reviewed for completeness. Data analysis was performed using descriptive statistics to summarize the responses. All analyses were conducted using Microsoft® Excel® 2019. The frequency distribution of responses was calculated for each question, and common themes and patterns were identified to provide insights into the state of laboratory-clinician interactions and potential areas for improvement.



Results

A total of 32 complete responses were collected. The participants included 18 individuals from various medical colleges and 14 from private laboratories. The years of experience in laboratory medicine varied among the participants, with 19 individuals having 1–5 years of experience, 4 participants having 6–10 years, 6 participants with 11–15 years, and 3 participants with 16–20 years of experience.

When asked how often laboratory personnel interact with physicians in their institution, only one-third of them reported daily communications. (Figure 1) The primary purpose of interaction is shown in Figure 2. When asked about the effectiveness of communication between laboratory personnel and clinicians in their institution, half of the respondents reported that the communication was either effective or very effective. (Figure 3)

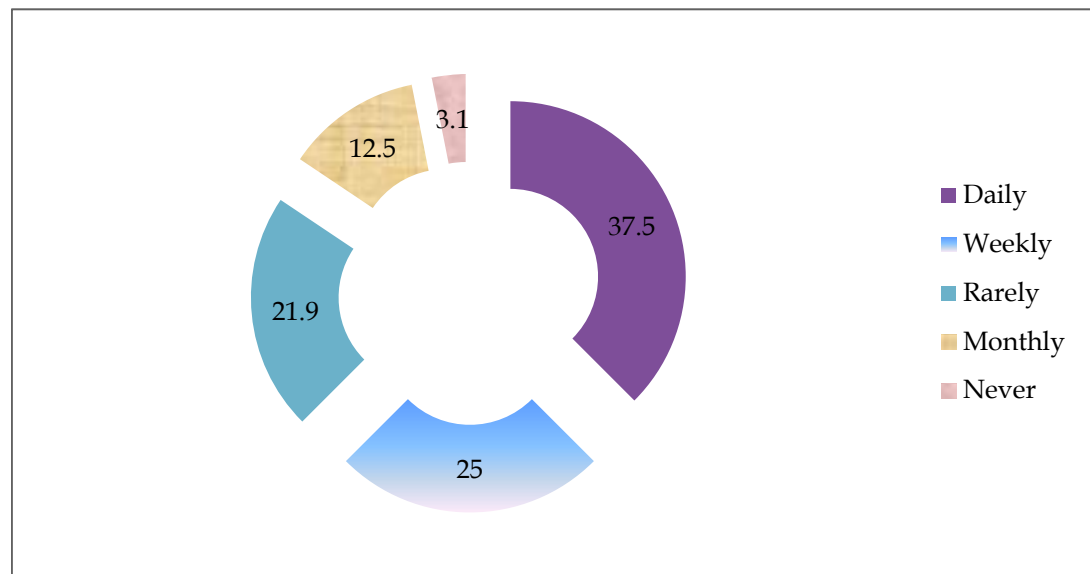


Figure 1: Frequency of interaction between laboratory personnel and clinicians in Nepal

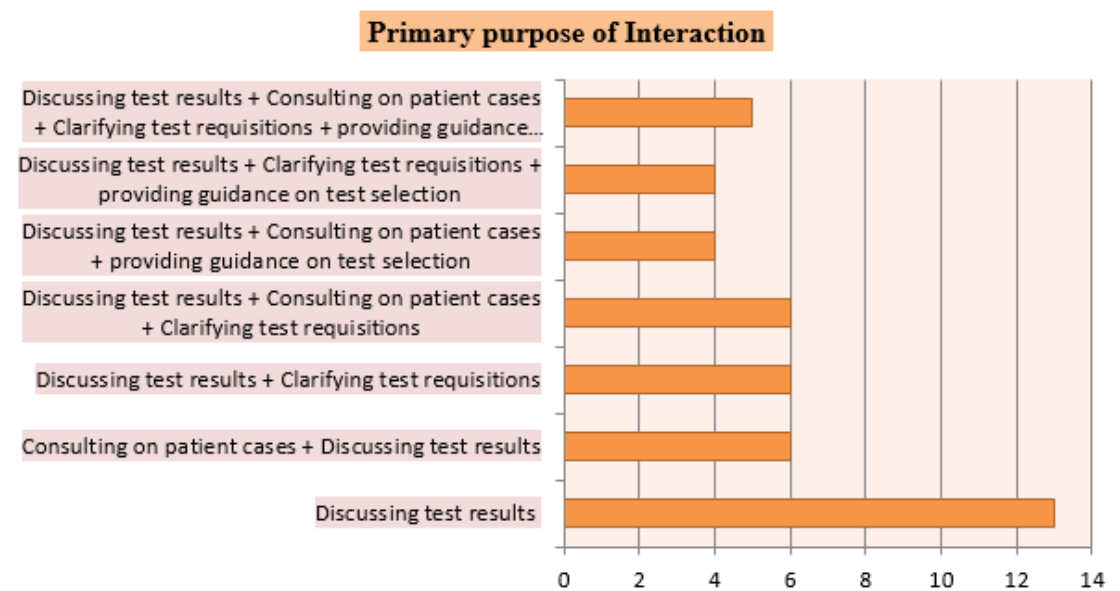


Figure 2: Primary purpose of interaction (Y-Axis) between laboratory personnel (X-axis) and clinicians



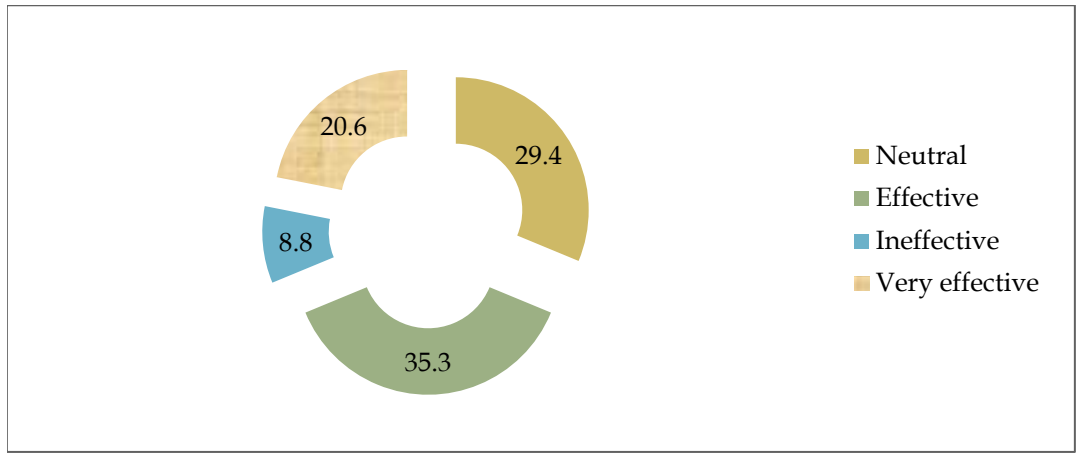


Figure 3: Effectiveness of communication between laboratory personnel and clinician

When asked about the challenges faced during interactions, the major issue identified was a lack of clear communication between laboratory personnel and physicians. (Figure 4)

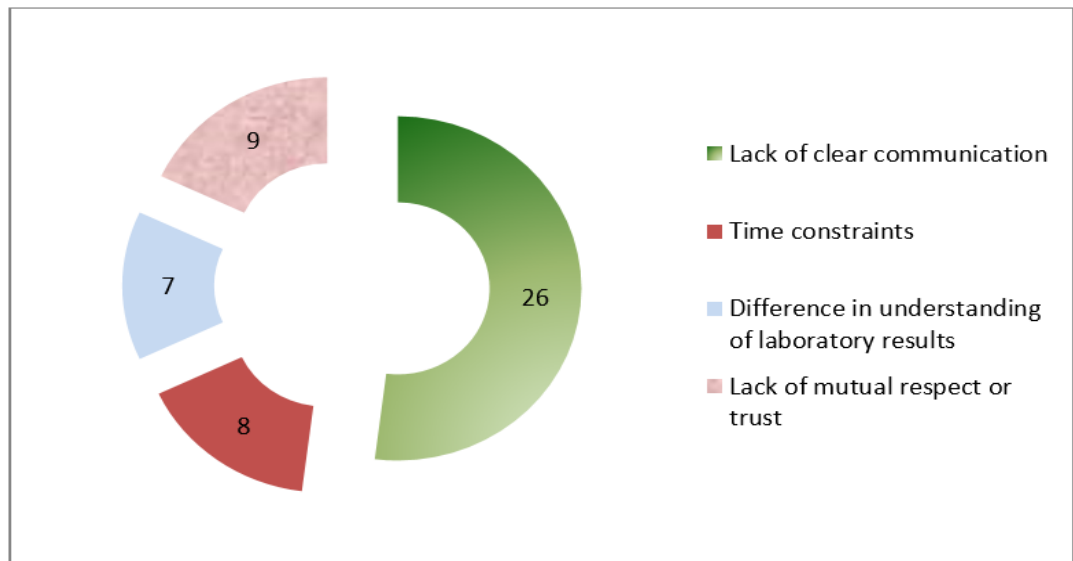


Figure 4: Challenges faced by laboratory personnel during their interaction with clinician

Several measures to improve the interaction were suggested by the respondents as shown in Figure 5

The potential benefits of enhanced collaboration between laboratory personnel and clinicians are highlighted in Figure 6.

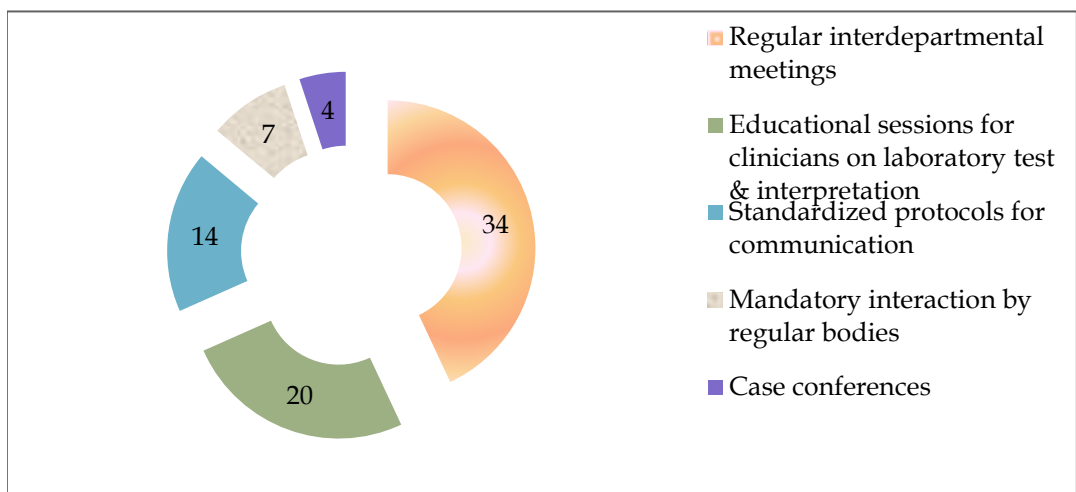


Figure 5: Measures suggested by laboratory personnel to improve interaction with clinician



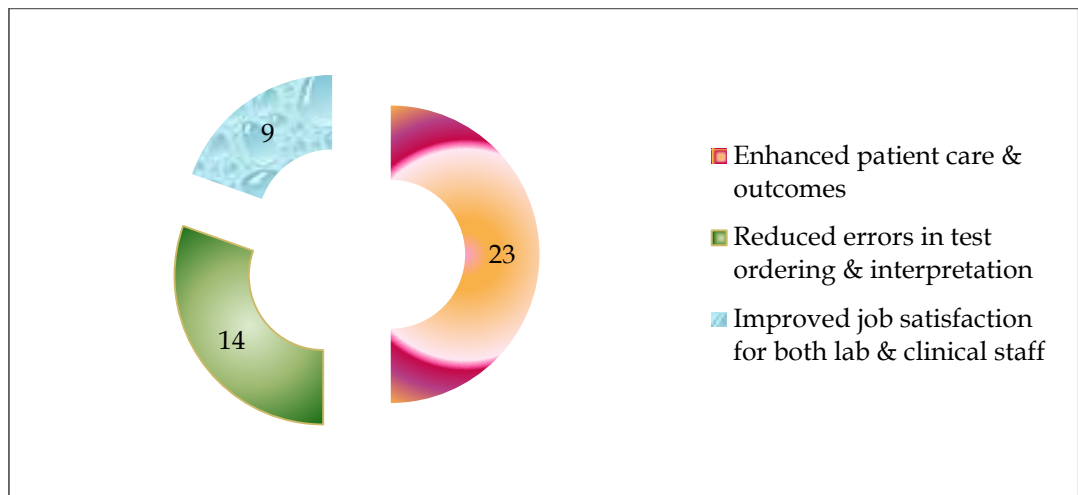


Figure 6: Benefits of collaboration between laboratory personnel and clinician

When asked about the need for additional training or education to facilitate better interaction, 90% of respondents expressed a desire for training for both laboratory personnel and clinicians. Similarly, when participants were asked about existing practices or initiatives in their institution that promote collaboration between laboratory personnel and clinicians, a few notable examples were shared. Overall, collaboration was reported as limited, with most interactions occurring primarily when abnormal test results needed discussion. However, some departments had implemented informal or ad-hoc practices to encourage communication. Notable initiatives included the introduction of newborn screening for inborn errors of metabolism, which enhanced collaboration with pediatric physicians. Another example was the creation of a Viber group for real-time communication between ICU and laboratory staff, as well as daily morning conferences involving interdisciplinary teams, which improved coordination.

When participants were asked for suggestions and feedback on improving interactions between laboratory personnel and physicians, several key recommendations were made. Respondents emphasized the importance of holding regular session meetings and case conferences to discuss clinical findings and laboratory test orders. To ensure better communication, participants recommended the implementation of regular communication channels and quality control measures, such as the verification of lab reports by biochemists, pathologists, and microbiologists. Additionally, there was a call for more educational sessions and continuing medical education programs to further enhance collaboration and improve interactions between laboratory staff and clinicians.

Discussion

The findings of this survey offer valuable insights into the current state of interaction between laboratory personnel and clinicians in Nepal. While the frequency of communication varies, a significant portion of laboratory staff report daily (37.5%) or weekly (25%) interactions. However, it is concerning that 21.9% of respondents interact rarely or only on a monthly basis, and 3.1% report no interaction at all. Those who report daily interactions are often from medical colleges, where clinicians are more readily available and case discussions are common among faculty. In contrast, many laboratories, particularly in private settings, lack consistent collaboration, which is crucial for effective patient care and decision-making. Private labs, in particular, face challenges due to limited access to clinicians, who are either unavailable or do not respond to calls, unlike in the medical college environment where

clinicians are more accessible. This disparity may explain the poor communication observed in some settings.

In our study, a common theme emerged in which many laboratory personnel often initiated contact with clinicians to clarify test requisitions and discuss test results. This aspect of communication is equally important, as it ensures that the correct tests are ordered based on the clinical context, preventing potential errors or misinterpretations that could arise from ambiguous or incomplete test requests. Clarifying test requisitions also aids in optimizing resource utilization within the laboratory, reducing unnecessary testing, and improving overall efficiency.

The effectiveness of communication was generally rated positively however, 29.4% of participants rated the communication as neutral, and 8.8% as ineffective, which points to significant room for improvement. Addressing the issues highlighted by the respondents who rated communication as neutral or ineffective could involve conducting further qualitative assessments to identify specific barriers and implementing targeted interventions to improve communication flow. The barriers identified, such as lack of clear communication, time constraints, and differences in the understanding of laboratory results, are consistent with challenges reported in similar studies globally (5-7).

The most frequently mentioned measure to improve interactions was the establishment of regular meetings, followed by educational sessions on laboratory tests and interpretation. Standardized protocols for communication, case conferences, and structured multidisciplinary team approaches were also highlighted as essential to improving collaboration. This is consistent with the growing recognition that integrated care models lead to better patient outcomes and more efficient healthcare delivery (8). The benefits of improved collaboration were also clear, with participants emphasizing enhanced patient care and outcomes, reduced errors in test ordering and interpretation, and improved job satisfaction.

Conclusion

This survey underscores the need for more structured and frequent communication between laboratory personnel and physicians in Nepal. While many interactions occur regularly and serve critical purposes such as discussing test results and consulting on patient care, significant challenges such as communication gaps, time constraints, and misunderstandings persist. Regular meetings, educational initiatives, standardized communication protocols, and case conferences were identified as effective strategies to enhance collaboration. Establishing these practices will contribute to advancing laboratory medicine in Nepal, ensuring that laboratory professionals play an even more crucial role in patient management and treatment.

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Supplementary Document: Questionnaire used in this Survey

1. **Personal Information:**
 - Name:
 - Position/Title:
 - Institution/Hospital:
 - Years of Experience in Laboratory Medicine:
2. **Frequency of Interaction:**
How often do laboratory personnel interact with physicians in your institution?
 - Daily
 - Weekly
 - Monthly
 - Rarely
 - Never
3. **Purpose of Interaction:**
What is the primary purpose of the interaction between laboratory personnel and physicians in your institution? (Check all that apply)
 - Discussing test results
 - Consulting on patient cases
 - Clarifying test requisitions
 - Providing guidance on test selection
 - Other (please specify):
4. **Effectiveness of Communication:**
How would you rate the effectiveness of communication between laboratory personnel and physicians in your institution?
 - Very effective
 - Effective
 - Neutral
 - Ineffective
5. **Challenges in Interaction:**
What are the main challenges faced during the interaction between laboratory personnel and physicians? (Check all that apply)
 - Lack of clear communication channels
 - Time constraints
 - Differences in understanding of laboratory results
 - Lack of mutual respect or trust
 - Other (please specify):
6. **Improvement Opportunities:**
In your opinion, what measures could be taken to improve the interaction between laboratory personnel and physicians? (Check all that apply)
 - Regular meetings or case conferences
 - Educational sessions on laboratory tests and interpretation
 - Standardized protocols for communication
 - Interaction should be made mandatory by regulatory bodies
 - Other (please specify):
7. **Interaction Benefits:**
What benefits do you believe could arise from improved collaboration between laboratory personnel and physicians? (Check all that apply)
 - Enhanced patient care and outcomes
 - Reduced errors in test ordering and interpretation
 - Improved job satisfaction for both laboratory and clinical staff
 - Other (please specify):
8. **Training Needs:**
Do you think there is a need for additional training or education for laboratory personnel and/or physicians to facilitate better interaction?
 - Yes, for laboratory personnel
 - Yes, for physicians
 - Yes, for both
 - No
9. **Current Practices:**
Are there any existing practices or initiatives in your institution that promote collaboration between laboratory personnel and physicians? If yes, please describe briefly.

10. **Suggestions and Feedback:**
Please provide any suggestions or feedback you have for enhancing the interaction between laboratory personnel and physicians in your institution or within the clinical chemistry community in Nepal.

