JOURNAL OF PHARMACEUTICAL ANALYSIS

COMMUNICATION BETWEEN NURSES AND LABORATORY STAFF AND ITS EFFECT ON TURNAROUND TIME OF TEST RESULTS.

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Abstract:
Effective communication between nurses and laboratory staff is essential for ensuring timely diagnostic processes and supporting safe clinical decision-making. Turnaround time (TAT) of laboratory test results is a critical quality indicator that directly influences patient flow, treatment initiation, and overall healthcare outcomes. Communication gaps, unclear test requests, specimen handling errors, and delays in reporting can significantly prolong TAT and compromise patient safety. This paper explores the impact of nurse–laboratory communication on laboratory test turnaround time, highlighting the role of standardized communication, clear documentation, timely specimen transport, and interprofessional collaboration. Strengthening communication pathways and promoting teamwork between nursing and laboratory services can reduce delays, enhance workflow efficiency, and improve the quality of patient care.

Introduction:
Timely availability of laboratory test results is a fundamental component of effective patient care, as diagnostic information guides clinical decisions, treatment planning, and patient monitoring. Turnaround time (TAT) is widely recognized as a key performance indicator in laboratory services and reflects the efficiency of pre-analytical, analytical, and post-analytical processes. Delays in TAT can lead to prolonged patient stays, delayed interventions, increased workload, and reduced patient satisfaction.
Nurses play a central role in the pre-analytical phase of laboratory testing, including test ordering, specimen collection, labeling, and transport. Laboratory staff are responsible for

accurate analysis, result verification, and reporting. Effective communication between these two professional groups is therefore critical to minimizing errors and ensuring timely processing of specimens. Poor communication, unclear instructions, and lack of coordination can result in specimen rejection, repeat testing, and extended turnaround times.

Interprofessional collaboration and structured communication strategies have been shown to improve workflow efficiency and reduce diagnostic delays. Understanding the impact of communication between nurses and laboratory staff on turnaround time is essential for developing targeted interventions that enhance diagnostic efficiency, patient safety, and overall quality of care.

Keywords:

Nurse–laboratory communication; Turnaround time; Laboratory testing; Interprofessional collaboration; Diagnostic efficiency; Patient safety; Quality of care

Methodology:

This paper adopts a **narrative literature review approach** to explore the impact of communication between nurses and laboratory staff on the turnaround time of laboratory test results. Relevant peer-reviewed articles, guidelines, and reports were identified through a structured search of recognized scientific databases, including **PubMed, Scopus, CINAHL, Web of Science, and Google Scholar**.

Literature Review

Effective communication between nurses and laboratory staff is a critical factor in ensuring timely and accurate laboratory test results. The literature identifies turnaround time (TAT) as a key quality indicator in laboratory services, directly affecting clinical decision-making, patient flow, and overall quality of care. Delays in TAT are frequently linked to communication breakdowns during the pre-analytical and post-analytical phases of laboratory testing.

Several studies emphasize the role of nurses in specimen collection, labeling, and timely transportation, highlighting that unclear test requests or incomplete clinical information can result in specimen rejection or delayed processing. Research also indicates that limited feedback mechanisms between laboratory staff and nurses contribute to repeated errors and extended turnaround times.

Interprofessional collaboration has been shown to improve laboratory efficiency by enhancing coordination, clarifying responsibilities, and standardizing communication processes. Structured communication tools, such as standardized request forms and electronic ordering systems, are associated with reduced delays and improved accuracy of laboratory results. In addition, regular meetings and feedback between nursing and laboratory teams foster mutual understanding and strengthen workflow integration.

Overall, the literature demonstrates that improving communication between nurses and laboratory staff is essential for reducing turnaround time, enhancing diagnostic efficiency, and supporting patient safety. Strengthening collaborative practices and adopting standardized communication strategies can significantly improve laboratory performance and clinical outcomes.

Discussion

The reviewed literature highlights the significant impact of communication between nurses and laboratory staff on the turnaround time of laboratory test results. Turnaround time is influenced not only by technical laboratory processes but also by the effectiveness of interprofessional

communication throughout the testing cycle. Communication gaps during test ordering, specimen collection, and result reporting are consistently identified as major contributors to delays and inefficiencies.

Findings from previous studies indicate that the pre-analytical phase is particularly vulnerable to communication-related errors. Incomplete test requests, improper specimen labeling, and delays in specimen transport—often linked to unclear communication—can result in specimen rejection or the need for repeat sampling, thereby prolonging turnaround time. Nurses, as primary coordinators of specimen collection and transport, play a crucial role in minimizing these delays through accurate documentation and timely communication with laboratory personnel.

The literature also emphasizes the importance of feedback and collaboration between nursing and laboratory teams. When laboratory staff provide timely feedback regarding specimen quality or test requirements, nurses are better equipped to correct errors and prevent recurrence. Regular communication and shared understanding of workflow expectations contribute to improved coordination and reduced turnaround times.

Moreover, the adoption of standardized communication tools, such as electronic test ordering systems and structured request forms, has been shown to enhance clarity and reduce misunderstandings. Interprofessional training and joint quality improvement initiatives further strengthen collaboration and foster a culture of shared responsibility for diagnostic efficiency and patient safety.

Despite these benefits, challenges remain, including workload pressures, staffing shortages, and limited opportunities for interdepartmental communication. Addressing these barriers through organizational support, clear communication protocols, and ongoing education is essential. Strengthening nurse–laboratory communication can lead to more efficient laboratory services, faster clinical decision-making, and improved patient care outcomes.

Conclusion

Effective communication between nurses and laboratory staff plays a vital role in reducing the turnaround time of laboratory test results and improving diagnostic efficiency. The literature demonstrates that communication-related factors, particularly during the pre-analytical and post-analytical phases, significantly influence the timeliness and accuracy of laboratory reporting. Strengthening interprofessional collaboration, standardizing communication processes, and promoting clear documentation can minimize delays and prevent avoidable errors.

Enhancing nurse–laboratory communication supports faster clinical decision-making, improves patient flow, and contributes to better patient safety and quality of care. Healthcare organizations should prioritize strategies that foster teamwork, continuous communication, and shared accountability between nursing and laboratory services to achieve sustained improvements in laboratory turnaround time and overall healthcare performance.

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