LETTER TO THE EDITOR

Clinical Laboratory - Protagonist in Patient Safety

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In order to reduce preventable deaths secondary to systemic errors, the concept of patients’ safety became a focus of the world’s attention in the early 1990s [1]. Initially it was started from critical care settings but later it was projected on other areas of clinical services as well for prevention of adverse events. Clinical laboratory plays a central role in patients’ safety and clinical effectiveness by helping in a prompt diagnosis and commencement of suitable treatment.

Accuracy, reliability, and timely reporting of laboratory test results portray patients’ safety as a large part of clinical decisions are attributed to laboratory results. Various professional organizations have also endorsed the role of laboratory employees and their contribution in protecting and preserving patient safety [2]. Clinical Laboratory Improvement Act (CLIA) has been in place since 1967 defining standards and quality requirements for clinical laboratory testing which include quality control, quality assurance, personnel standards, and proficiency testing.

Laboratory quality management plans encompass three essential elements i.e., pre-analytic, analytic, and post-analytic, all of which are crucial warranting patient safety. Although, laboratories need to continuously improve quality and safety by focusing on the analytic phase, pre- and post-analytical services also require utmost attention as there is potential room of errors in these facilities [2]. Often debatable, but laboratory professionals must be front-runners in dealing with issues...
related to clinical testing both within and beyond the scope of the laboratory. The new advancements such as laboratory sample bar coding systems have substantially minimized the transcription errors and enhanced laboratory efficiency and patient related safety [3]. Clerical errors relating to identification have been significantly reduced by bar code systems reducing pre-analytical error resulting in better laboratory productivity and patient care. One of the major components of an overall quality assurance system is quality control samples which are run every day according to workload and local recommendations to ensure the accuracy and reliability of analytical instruments. The measures taken to establish internal quality control are cardinal for accurate patient test results [4]. Similarly, additional quality control tools like delta check, moving averages, and proficiency testing provide an additional layer of protection and accuracy ensuring patient safety. Delta checking is a significant quality control resource which involves historical check and identification of errors by counter checking the previous laboratory results of same patient. Establishment of laboratory policy for well-timed reporting of critical values to health care providers plays a key role in patients’ safety by reducing adverse events and timely interventions [5]. Informing critical results has been mandatory by accreditation organizations globally. In order to improve accuracy, critical values are retested before communicating to primary physician [6]. Faster turnaround time of test reports in terms of stat results can be of great significance for the emergency departments, operation theaters, labor rooms and, occasionally, for outpatients where immediate decisions are to be made strengthening the post-analytical phase. Authentic test results can shorten patient’s length of stay in hospital simultaneously consolidating patient’s contentment and quality care [7]. An important aspect of a computer-based laboratory information management system is its linking to automated analytical instruments which not only reduces the turnaround time of reporting but more importantly cuts short the human error involved by manual transcription of test results [8]. Where initially computing in laboratory systems was involved by manual transcription of test results [8]. Similarly, additional quality control tools like delta check, moving averages, and proficiency testing provide an additional layer of protection and accuracy ensuring patient safety. Delta checking is a significant quality control resource which involves historical check and identification of errors by counter checking the previous laboratory results of same patient. Establishment of laboratory policy for well-timed reporting of critical values to health care providers plays a key role in patients’ safety by reducing adverse events and timely interventions [5]. Informing critical results has been mandatory by accreditation organizations globally. In order to improve accuracy, critical values are retested before communicating to primary physician [6]. Faster turnaround time of test reports in terms of stat results can be of great significance for the emergency departments, operation theaters, labor rooms and, occasionally, for outpatients where immediate decisions are to be made strengthening the post-analytical phase. Authentic test results can shorten patient’s length of stay in hospital simultaneously consolidating patient’s contentment and quality care [7]. An important aspect of a computer-based laboratory information management system is its linking to automated analytical instruments which not only reduces the turnaround time of reporting but more importantly cuts short the human error involved by manual transcription of test results [8]. Where initially computing in laboratory systems was used to streamline the heavy workloads, today it has a major role in enhancing safety by making laboratory results available to all related disciplines for instance pharmacy as it safe guards against the contraindicated drugs on grounds of various available laboratory results. Laboratory information management systems, when used for record keeping, can also help identify pre- and post-analytic sampling errors by making the previous information of a patient readily accessible [2]. Documentation of errors is a crucial part of health care services as it helps in prevention and reoccurrence of similar kinds of errors. It promotes a culture of safety by empowering laboratory employees to report errors in their own areas [9].

Laboratory related patient safety congregates both in house and outpatient services. Ensuring conclusive patient safety requires team work, better communication, and overall understanding and knowledge of laboratory work. Endorsement of safety culture in laboratory workers brings out remarkable changes in behavior towards being more cautious, attentive, and observant. Comprehensive, clinical laboratory works hand in hand with other services to establish safety set up reinforcing quality care.

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