This study was conducted to investigate and analyze pre-analytical errors. The author intended to reduce these errors by some measures in order to enhance the credibility of the laboratory” Lee (2019).

Abstract:

BACKGROUND: The results of laboratory tests play a critical role in patient management, so the clinical laboratory is obligated to report accurate results. However, the pre-analytical phase, in which human factors are mainly involved, is clearly a vulnerable part of the laboratory process. This study was conducted to investigate and analyze pre-analytical errors. The author intended to reduce these errors by some measures in order to enhance the credibility of the laboratory.

METHODS: A retrospective study was conducted to identify the rates and the types and frequencies of pre-analytical errors in the laboratory and analyze them according to the departments of patients, the sections of the laboratory, and the wards of the hospital. The reasons for these errors were persistently identified and analyzed in order to make efforts to reduce the errors. The activities for quality improvement including education and training programs on the phlebotomy teams were also accomplished to reduce these errors.

RESULTS: The overall rate of pre-analytical errors was 0.40%. The rate of these errors significantly decreased from 0.44% in 2017 to 0.36% in 2018. In particular, the proportion of improper volume decreased from 46.1% in 2017 to 36.4% in 2018. The most common pre-analytical error was ‘improper volume’ (41.5%), followed by ‘undue clotting’ (32.8%). These errors were overwhelmingly more common in inpatients than in outpatients. The rate of these errors was the highest in stat section (1.95%).

CONCLUSIONS: Clinical laboratory should make efforts to reduce pre-analytical errors in order to report accurate and expeditious results. Reduction of these errors can be achieved through analyzing and correcting the reasons for them and education and training on the phlebotomy teams and, as a result, the credibility of the laboratory may also be enhanced.

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