CHAPTER: 08

ASSESSING REASONS FOR DELAY OF RENAL FUNCTION TEST IN OPD PATIENTS OF ABEER FAMILY MEDICAL CENTER, KOZHIKODE

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INTRODUCTION

Laboratory services play a crucial role in determining the appropriate dosage for treatment, identifying the pathogens causing diseases, assessing electrolyte levels in the blood, understanding the sensitivity and resistance of bacteria to antibiotics, and identifying patient allergies to prevent adverse drug reactions. Additionally, laboratory services contribute to research and development. In contemporary medical practice, diagnostic services are integral for delivering accurate information, with over 75% of medical treatments relying on precise diagnostic results. The organization's laboratory services are aligned with its clinical offerings, featuring a well-designed and modern department equipped with state-of-the-art technology [1].

The laboratory incorporates all primary sections of diagnostic services, and a skilled team of physicians and technicians ensures the provision of accurate and timely results. It's essential to highlight that a delay in sample separation can affect creatinine measurement utilizing the Roche kinetic Jaffe reaction, potentially causing the misclassification of chronic kidney disease (CKD) staging [2]. Laboratories utilizing the kinetic Jaffe method should abstain from reporting creatinine results if there has been a delay in sample separation, in accordance with the recommended practice guidelines [3].

RESEARCH OBJECTIVES

1. To determine the frequency of departures from the Renal Function Test's set standard turnaround time of two hours.
2. To offer recommendations for minimizing delays.

RESEARCH METHODOLOGY

The research was carried out on outpatients at Abeer Family Medical Center in Kozhikode. It followed a cross-sectional design, and all samples collected between March 1st and April 15th, 2019, were considered for each parameter of the Renal Function Test. The data collection utilized convenience sampling, and subsequent analysis was

performed using Microsoft Excel, with graphical presentations.

RESULTS & DISCUSSION

Out of 43 delays, 20 exceeded the standard time of 2 hours by 30-60 minutes. Among 41 delays, 27 were within 30 minutes beyond the 2-hour standard time. Among 33 delays, the majority were in the 30-60 minutes range above the 2-hour standard time. For 72.2% of samples, the lab received them 30-40 minutes after nurse collection, 23% after 40-50 minutes, 4.4% after 50-60 minutes, and 0.4% in 1-2 hours. In terms of collection time to lab receipt, 73.3% took 30-40 minutes, 19.3% took 40-50 minutes, and 7.3% took 50-60 minutes. 81.4% of samples were delivered to the laboratory within 30-40 minutes after collection, 74.5% within 40-50 minutes after collection, and only 0.8% within 50-60 minutes after collection.

CONCLUSION

Enhance the efficiency of lab staff through training for improved work management. Implement a roster system to ensure a continuous presence of staff for sample reception and result entry into the system. Increase the number of staff dedicated to sample collection and transfer. Utilize proper techniques for blood sample collection to prevent hemolysis and subsequent sample rejection, emphasizing the use of clot tubes. Conduct regular equipment calibration, with weekly audits to ensure accuracy.

REFERENCES

1. *Genzen, J. R. (2019). Regulation of laboratory-developed tests: a clinical laboratory perspective. American Journal of Clinical Pathology, 152(2), 122-131.*
2. *Renal Function Test [Internet]. [cited 2019 May 12]*
3. *Ford, L., & Berg, J. (2008). Delay in separating blood samples affects creatinine measurement using the Roche kinetic Jaffe method. Annals of clinical biochemistry, 45(1), 83-87.*