

## The Magnitude and Associated Factors of Coagulation Abnormalities Among Liver Disease Patients at the University of Gondar Comprehensive Specialized Hospital Northwest, Ethiopia

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**Abstract :** Background: Liver disease is any condition that affects the liver cells and their function. It is directly linked to coagulation disorders since most coagulation factors are produced by the liver. Therefore, this study aimed to assess the magnitude and associated factors of coagulation abnormalities among liver disease patients. Methods: A cross-sectional study was conducted from August to October 2022 among 307 consecutively selected study participants at the University of Gondar Comprehensive Specialized Hospital. Sociodemographic and clinical data were collected using a structured questionnaire and data extraction sheet, respectively. About 2.7 mL of venous blood was collected and analyzed by the Genrui CA51 coagulation analyzer. Data was entered into Epi-data and exported to STATA version 14 software for analysis. The finding was described in terms of frequencies and proportions. Factors associated with coagulation abnormalities were analyzed by bivariable and multivariable logistic regression. Result: In this study, a total of 307 study participants were included. Of them, the magnitude of prolonged Prothrombin Time (PT) and Activated Partial Thromboplastin Time (APTT) were 68.08% and 63.51%, respectively. The presence of anemia (AOR = 2.97, 95% CI: 1.26, 7.03), a lack of a vegetable feeding habit (AOR = 2.98, 95% CI: 1.42, 6.24), no history of blood transfusion (AOR = 3.72, 95% CI: 1.78, 7.78), and lack of physical exercise (AOR = 3.23, 95% CI: 1.60, 6.52) were significantly associated with prolonged PT. While the presence of anaemia (AOR = 3.02; 95% CI: 1.34, 6.76), lack of vegetable feeding habit (AOR = 2.64; 95% CI: 1.34, 5.20), no history of blood transfusion (AOR = 2.28; 95% CI: 1.09, 4.79), and a lack of physical exercise (AOR = 2.35; 95% CI: 1.16, 4.78) were significantly associated with abnormal APTT. Conclusion: Patients with liver disease had substantial coagulation problems. Being anemic, having a transfusion history, lack of physical activity, and lack of vegetables showed significant association with coagulopathy. Therefore, early detection and management of coagulation abnormalities in liver disease patients are critical.

**Keywords :** coagulation, liver disease, PT, Aptt

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