

## **The Association of ALT, AST, & LDL and Hypertension Among Patients of a Multispecialty Secondary Clinical Laboratory in Plaridel, Bulacan**

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**ABSTRACT:**

The prevalence of hypertension in the Philippines remains high, accounting for 602.4 cases per 10,000 population. Aside from high cholesterol levels, recent studies documented a trend between hypertension and liver diseases. Thus, several researchers have tried to observe the relationship between liver parameter levels, such as aspartate aminotransferase (AST), alanine transaminase (ALT), and low-density lipoprotein (LDL), and the prevalence of hypertension. To this day, the association between these variables remains unestablished as the exact mechanism for their relationship is still unclear, deeming further research necessary. Therefore, the study aimed to determine the association between hypertension and elevated AST, ALT, and LDL among patients from a Clinical Laboratory in Plaridel, Bulacan. With the belief that there is an association between the liver parameters and hypertension, cross-sectional research design was employed to elucidate the prevalence of a disease in a population at a given time and establish relationships between study variables. Through purposive sampling, secondary patient data were analyzed via the chi-square test of independence and binary logistic regression. Results showed that the liver parameters ALT, AST, & LDL had a significant relationship with hypertension. Specifically, there was a 1.71 times higher prevalence of acquiring high blood pressure with elevated LDL levels than those with normal LDL levels. Meanwhile, those with elevated ALT and AST levels demonstrated a higher risk of 1.51 times and 1.65 times the prevalence of acquiring hypertension, respectively, than those with normal ALT and AST levels. This implied that individuals with elevated liver parameters have greater chances of developing hypertension.

**Keywords:** ALT, AST, LDL, hypertension, normotensive, hypertensive