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## Association Of Fatty Liver Index And Nonalcoholic Fatty Liver Disease With Hypertension In Community Dwelling Individuals

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**Background :** Nonalcoholic fatty liver disease (NAFLD) is one of the most important liver diseases in the world. Recent studies have suggested that the risk of hypertension (HTN) is considerably higher in patients with NAFLD than in other populations. the fatty liver index (FLI), a proxy marker of hepatic steatosis, has been recently used to screen the NAFLD patients. The FLI is calculated by a formula that uses waist circumference (WC), body mass index (BMI), serum triglycerides and gamma glutamyl transpeptidase (GGT). The objective of this study is to evaluate the association and correlation of NAFLD and HTN in the community dwelling individuals.

**Methods :** Taiwan MJ health check-up database (2008-2017) was used to extract the data relevant to the study. FLI is calculated as follows:  $FLI = \frac{[e^{0.953 \times \ln \text{triglyceride} + 0.139 \times \text{BMI} + 0.718 \times \ln \text{GGT} + 0.053 \times \text{WC} - 15.745}]}{[e^{0.953 \times \ln \text{triglyceride} + 0.139 \times \text{BMI} + 0.718 \times \ln \text{GGT} + 0.053 \times \text{WC} - 15.745}]} \times 100$ . The categories of blood pressure (BP) were set based on The American Heart Association (AHA) guidelines. Correlation and regression analysis was performed to evaluate the association between FLI and worsening the HTN AHA level of BP in the repeated measurement obtained from the health check data. Data of 32,850 individuals were analyzed in this study.

**Results :** There were 26,924 (81.96%) individuals with low FLI and 5,926 (18.04%) with high FLI. 27,885 (84.89%) did not experience worsening the HTN AHA level of BP and 4,965 (15.11%) did. The Spearman's correlation between FLI and HTN was  $r = 0.137$  ( $p \text{ value} < 0.001$ ). After controlling for age and sex, high FLI was associated with the increased odds ratio of 1.519 (confidence interval 1.412-1.635) for HTN in the participants.

**Conclusions :** We conclude that risk of HTN in community dwelling individual is significantly higher in patients who are at the risk of NAFLD calculated by FLI, than in the people without NAFLD.

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