



Weight-Adjusted-Waist Index in Relation to Liver Function and Non-Alcoholic Fatty Liver Disease

Sara Aref Hosseini¹, Mehrangiz Ebrahimi Mameghani^{2*}

¹Student Research Committee, Tabriz University of Medical Sciences, Tabriz, Iran

²Nutrition Research Center, Department of Biochemistry and Diet Therapy, Faculty of Nutrition and Food Sciences, Tabriz University of Medical Sciences, Tabriz, Iran

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*Corresponding Author:

Nutrition Research Center,
Dept. of Biochemistry and Diet
Therapy, Faculty of Nutrition
and Food Sciences, Tabriz
University of Medical Sciences,
Tabriz, Iran

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ABSTRACT

Introduction: Weight-adjusted-waist index (WWI), as a novel anthropometric index, has been suggested to reflect metabolic status in multiple disorders, especially in cardiometabolic and obesity-derived disorders. This study aimed to investigate whether WWI is related to liver function and non-alcoholic fatty liver disease (NAFLD).

Methods and Materials: The present cross-sectional study included 238 (105 male and 133 female) adults aged 18-70. Weight, height, and waist circumference (WC) were measured, and then, body mass index (BMI) and WWI were estimated. After 12-14 hours of fasting and taking blood samples, serum liver enzymes and ferritin levels were assessed. Furthermore, NAFLD was diagnosed using ultrasonography findings.

Results: The prevalence of NAFLD was 84.6%. Mean WWI was 11.24 ± 0.65 and was more significant in women than men ($p = 0.001$), although mean WC in men was significantly greater than women ($p = 0.001$). Among all studied metabolic factors, WWI was significantly correlated with BMI. Moreover, by increasing the severity of fatty liver, mean WWI increased ($p = 0.001$). However, WWI was not associated with the risk of NAFLD after adjusting for age, gender, and BMI (OR = 1.17; CI 95%: 0.76-1.82; $p = 0.468$).

Conclusion and Discussion: While WWI was related to the severity of liver steatosis, it failed to predict NAFLD.

Keywords: Fatty liver, Liver, Non-alcoholic fatty liver disease