



*Original Article*

***Risk Factors for the Development of Nonalcoholic Fatty Liver Disease in Overweight and Obese Individuals***

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**ABSTRACT**

**Background:** Nonalcoholic fatty liver disease (NAFLD) is a growing public health concern, particularly among individuals who are overweight or obese. Understanding the risk factors associated with the development of NAFLD in this population is crucial for early identification and targeted interventions.

**Objective:** To identify the key risk factors that contribute to the development of NAFLD in overweight and obese individuals.

**Methods:** This was a prospective cohort study conducted at a tertiary care center. Overweight and obese adults (BMI  $\geq 25$  kg/m<sup>2</sup>) without a history of liver disease were enrolled and followed for 5 years. Baseline demographic, clinical, and laboratory data were collected. The development of NAFLD was assessed through abdominal imaging and liver function tests. Multivariate analysis was used to identify independent risk factors for NAFLD.

**Results:** A total of 1,200 participants were included in the analysis, with a mean age of 53 years and a mean BMI of 31 kg/m<sup>2</sup>. Over the 5-year follow-up period, 420 (35%) participants developed NAFLD. The independent risk factors for NAFLD identified were: older age (OR 1.3, 95% CI 1.1-1.6,  $p=0.002$ ), higher waist circumference (OR 1.8, 95% CI 1.4-2.3,  $p<0.001$ ), elevated triglycerides (OR 1.5, 95% CI 1.2-1.9,  $p=0.001$ ), decreased HDL cholesterol (OR 1.4, 95% CI 1.1-1.8,  $p=0.004$ ), and the presence of prediabetes or type 2 diabetes (OR 2.1, 95% CI 1.6-2.7,  $p<0.001$ ).

**Conclusions:** In overweight and obese individuals, older age, central obesity, dyslipidemia, and impaired glucose metabolism are significant risk factors for the development of NAFLD. These findings underscore the importance of targeted screening and lifestyle interventions in high-risk individuals to prevent the progression of NAFLD.

**Keywords:** *Nonalcoholic fatty liver disease, Overweight, Obesity, Risk factors, Metabolic health, Prospective study*

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**AJMS, Volume 10, Issue 4, 2024**

**Citation:**

Choi Yoon-sik, Jeong Da-hye, Risk Factors for the Development of Nonalcoholic Fatty Liver Disease in Overweight and Obese Individuals. AJMS 2024; 10 (4): 56-65