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Prevalence of metabolic associated fatty liver disease (MAFLD) and its associated factors among type 2 diabetes mellitus (T2DM) in primary care settings in Kuantan, Pahang


[Medical Journal of Malaysia](#) • Article • 2026

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Abstract

Introduction: Metabolic associated fatty liver disease (MAFLD) is a common comorbidity in type 2 diabetes mellitus (T2DM) and is associated with adverse hepatic and metabolic outcomes. Early detection in primary care is limited by restricted access to imaging, highlighting the need for practical non-invasive screening tools. This study aimed to determine the prevalence of MAFLD using the Fatty Liver Index (FLI) and identify associated factors among T2DM patients in Kuantan, Pahang. **Materials and Methods:** A cross-sectional study was conducted among T2DM patients aged ≥ 18 years selected through systematic random sampling from primary care clinics. Sociodemographic and clinical data were obtained from interviews and medical records. FLI, calculated using BMI, waist circumference, triglycerides, and gamma-glutamyl transferase, was used

to estimate hepatic steatosis, with MAFLD defined as FLI ≥ 60 . Data were analysed using SPSS version 29, and multiple logistic regression was used to identify independent predictors. Results: Among 430 participants, MAFLD prevalence was 51.2% (n=220). Patients with MAFLD were younger (56.4 vs. 61.5 years, $p < 0.001$), had shorter diabetes duration (6 vs. 8 years, $p = 0.011$), and poorer glycaemic control (HbA_{1c} $\geq 7\%$: 64.5% vs. 48.2%, $p < 0.001$). Prevalence was highest among Indians (61.9%), followed by Malays (53.7%) and Chinese (35.1%) ($p = 0.008$). Multivariable analysis demonstrates younger age (AOR=0.974; 95% CI: 0.956–0.992) and poor glycaemic control (AOR=2.016; 95% CI: 1.326–3.065) were independently associated with MAFLD. Conclusion: MAFLD prevalence was high among T2DM patients in primary care. Younger age and poor glycaemic control were independently associated with MAFLD. Routine FLI screening may support early identification of high-risk patients and timely intervention. © 2026, Malaysian Medical Association. All rights reserved.

Author keywords

Fatty Liver Index; MAFLD; Malaysia; Prevalence; Type 2 Diabetes Mellitus

Funding details

Details about financial support for research, including funding sources and grant numbers as provided in academic publications.

Funding sponsor	Funding number	Acronym
Malaysian Society of Gastroenterology and Hepatology Research Fund		

Funding text

This study was financially supported by the Family Medicine Specialist Association Research Grant and the Malaysian Society of Gastroenterology and Hepatology Research Fund.

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