

Abstract

Background: Diabetic foot ulcers (DFU) represent a significant complication of type 2 diabetes mellitus (T2DM), contributing to disability and mortality worldwide. In Medan City, Indonesia, high diabetes prevalence compounds the challenge of managing DFU severity, which is influenced by multifactorial risks.

Objective: To identify demographic and clinical factors associated with the severity degree of diabetic foot ulcers among patients with T2DM in Medan City.

Methods: An analytical observational cross-sectional study was conducted in 2024 at three diabetic wound care clinics in Medan. Medical records of 170 T2DM patients with DFU were analyzed. Variables included demographics, clinical data, sensory perception, ankle-brachial index (ABI), and ulcer severity graded by Wagner classification. Statistical analyses included chi-square tests and ordinal logistic regression to identify independent predictors of ulcer severity.

Results: AGE ranged mostly between 55–64 years, with 52.9% females. The majority had poor glycemic control and were treated with combination therapy (oral agents plus insulin). Multivariate analysis showed significant independent predictors of higher Wagner ulcer grades: abnormal ABI ($p<0.001$), impaired sensory perception ($p<0.001$), longer ulcer duration ($p<0.001$), T2DM duration ($p=0.002$), history of hypertension ($p<0.001$), and glycemic control ($p=0.006$). The model predicted ulcer severity with 84.1% accuracy.

Conclusion: Abnormal ABI, impaired sensation, prolonged ulcer duration, and long-standing T2DM significantly predict DFU severity in Medan City patients. Early comprehensive foot screening focusing on vascular and neurological assessment is essential to prevent severe complications.

Keywords: risk factors, diabetic foot, foot ulcer