

**PENGARUH *FOOT EXERCISE MODIFICATION (FEM)* TERHADAP NILAI
ANKLE BRACHIAL INDEX (ABI) SERTA SENSITIVITAS KAKI PADA
PENDERITA DIABETES MELLITUS TIPE 2**

TESIS



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Pengaruh *Foot Exercise Modification (FEM)* Terhadap Nilai *Ankle Brachial Index (ABI)* Serta Sensitivitas Kaki Pada Penderita Diabetes Mellitus Tipe 2

ABSTRAK

Komplikasi makrovaskluer yang sering terjadi pada diabetes mellitus tipe 2 yang tidak terkontrol adalah neuropati diabetic. Neuropati diabetic dapat menyebabkan luka kaki diabetes. Hal ini berhubungan dengan penurunan aliran darah perifer yang mengurangi perfusi ke ekstermitas bawah, yang dapat dilihat melalui penurunan *Ankle Brachial Index (ABI)* dan sensitivitas kaki. Untuk mencegah komplikasi salah satu penatalaksanannya dengan melakukan *Foot Exercise Modification (FEM)*. *FEM* merupakan modifikasi dari latihan *Buerger Allen Exercise* dan senam kaki yang memiliki kelebihan dan kekurangan masing-masing. Tujuan penelitian ini adalah untuk mengetahui pengaruh *Foot Exercise Modification (FEM)* terhadap *Ankle Brachial Index (ABI)* dan sensitivitas kaki. Penelitian ini menggunakan desain *quasi eksperimen* dengan pendekatan *pretest dan posttest group with control group*. Sampel penelitian berjumlah 30 orang, 15 kelompok kontrol dan 15 kelompok intervensi. Sampel penelitian diambil dengan teknik *non probability* jenis *consecutive sampling*. Pengukuran ABI dilakukan dengan menggunakan *dopple pedis*, sedangkan sensitivitas kaki diukur menggunakan monofilament, dengan SOP *FEM* sebagai panduan intervensi. Hasil penelitian univariat didapatkan rerata nilai ABI pada kelompok intervensi meningkat menjadi 1,03 dan rerata sensitivitas kaki 4,93. Pada kelompok kontrol nilai rerata ABI 0,81 dan rerata sensitivitas kaki 1,40, hasil uji bivariat adalah nilai $p=0,000 < 0,05$. Berdasarkan hasil tersebut dapat disimpulkan adanya pengaruh yang signifikan setelah pemberian *Foot Exercise Modification (FEM)* terhadap nilai *Ankle Brachial Index (ABI)* dan sensitivitas kaki pada penderita diabetes mellitus tipe 2, dari hasil tersebut diharapkan penelitian ini menjadi langkah dalam penerapan *Evidence Based Practice* dalam memberikan asuhan keperawatan.

Kata Kunci: Diabetes Mellitus Tipe 2, *Ankle Brachial Index*, Sensitivitas Kaki, *Buerger Allen Exercise*, Senam Kaki

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The Effect of Foot Exercise Modification (FEM) on Ankle Brachial Index (ABI) and Foot Sensitivity in Patients with Type 2 Diabetes Mellitus

ABSTRACT

A common macrovascular complication in uncontrolled type 2 diabetes mellitus is diabetic neuropathy. Diabetic neuropathy can lead to diabetic foot ulcers. This condition is associated with decreased peripheral blood flow, which reduces perfusion to the lower extremities. This can be observed through a decrease in the Ankle Brachial Index (ABI) and foot sensitivity. One management strategy to prevent this complication is the implementation of Foot Exercise Modification (FEM). FEM is a modification of the Buerger Allen Exercise and traditional foot exercises, each with its own advantages and disadvantages. The aim of this study is to determine the effect of Foot Exercise Modification (FEM) on the Ankle Brachial Index (ABI) and foot sensitivity. This study used a quasi-experimental design with a pretest-posttest control group approach. The sample consisted of 30 participants, with 15 in the control group and 15 in the intervention group. The sampling technique used was non-probability with a consecutive sampling type. ABI measurements were conducted using a Doppler device on the pedis artery, while foot sensitivity was measured using a monofilament, with the FEM standard operating procedure serving as the intervention guide. The univariate results showed that the average ABI value in the intervention group increased to 1,03 and the average foot sensitivity was 4,93. In the control group the average ABI value was 0,81 and the average foot sensitivity was 1,40. The bivariate test results showed a $p=0,000 < 0,05$. Based on these findings, it can be concluded that there is a significant effect of Foot Exercise Modification (FEM) on the Ankle Brachial Index (ABI) and foot sensitivity in patients with type 2 diabetes mellitus. These results are expected to contribute to the implementation of Evidence Based Practice in providing nursing care.

Keywords: *Type 2 Diabetes Mellitus, Ankle Brachial Index, Foot Sensitivity, Buerger Allen Exercise, Foot Exercise.*