

ABSTRAK

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PENGARUH *BUERGER ALLEN EXERCISE* TERHADAP RISIKO GANGGUAN FUNGSI SENSORIK PADA PENDERITA DIABETES MELITUS TIPE II DI WILAYAH KERJA PUSKESMAS JEMURSARI SURABAYA

xvi + 126 Halaman + 12 Tabel + 30 Lampiran

Diabetes Melitus Tipe II adalah penyakit metabolik kronis ditandai hiperglikemia akibat gangguan sekresi atau kerja insulin. Hiperglikemia berkepanjangan menimbulkan komplikasi neuropati perifer berupa penurunan fungsi sensorik ekstremitas bawah, meningkatkan risiko ulkus kaki diabetik hingga amputasi. Salah satu intervensi non-farmakologis untuk menurunkan risiko gangguan sensorik adalah *Buerger Allen Exercise (BAE)*. Adapun kriteria risiko neuropati yang meliputi, risiko tinggi neuropati, risiko sedang neuropati, dan risiko rendah neuropati.

Studi ini menggunakan desain *Quasy Experimental* dengan rancangan *Pre-Post Test Control Group Design*. Sejumlah 32 responden dipilih melalui *simple random sampling* dan dibagi menjadi kelompok perlakuan ($n=16$) serta kelompok kontrol ($n=16$). Kelompok intervensi melakukan *BAE* selama satu bulan dengan frekuensi 5 kali sehari (total 80 sesi). Instrumen penelitian menggunakan monofilamen 10g untuk mengukur risiko gangguan fungsi sensorik, yang kemudian dianalisis dengan uji *Wilcoxon* dan *Mann-Whitney*.

Hasil penelitian menunjukkan sebelum intervensi, sebagian besar responden pada risiko sedang hingga risiko tinggi neuropati. Setelah diberikan *Buerger Allen Exercise*, terjadi penurunan risiko gangguan fungsi sensorik, dimana sebagian besar responden pada risiko rendah neuropati pada kaki kanan dan kaki kiri. Terdapat perbedaan signifikan pada risiko gangguan fungsi sensorik kaki kanan dan kiri sebelum dan sesudah intervensi pada kelompok perlakuan ($p = 0,000$), sementara kelompok kontrol tidak menunjukkan perubahan ($p = 1,000$).

BAE terbukti efektif memperbaiki risiko gangguan fungsi sensorik dan layak diimplementasikan sebagai intervensi keperawatan mandiri yang aman untuk mencegah komplikasi neuropati perifer pada penderita DM Tipe II.

Kata Kunci: *Buerger Allen Exercise*, Risiko Gangguan Fungsi Sensorik, Diabetes Melitus Tipe II

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ABSTRACT

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THE EFFECT OF BUERGER ALLEN EXERCISE ON THE RISK OF SENSORY FUNCTION IMPAIRMENT IN PATIENTS WITH TYPE II DIABETES MELITUS IN THE WORKING AREA OF JEMURSARI PUBLIC HEALTH CENTER SURABAYA

xvi + 126 Pages + 12 Tables + 30 Appendices

Type II Diabetes Melitus is a chronic metabolic condition marked by high blood sugar due to problems with insulin secretion or its effectiveness. Long-term hyperglycemia can lead to peripheral neuropathy, causing reduced sensory function in the lower limbs. This condition raises the risk of diabetic foot ulcers and even amputation. One non-pharmacological approach to help reduce sensory impairment is the Buerger Allen Exercise (BAE). Neuropathy risk levels are generally classified into three categories: high risk, moderate risk, and low risk.

This study followed a quasy-experimental design using a pre-post test control group setup. A total of 32 participants were chosen through simple random sampling and split into two groups: treatment (n=16) and control (n=16). The treatment group practiced Buerger Allen Exercise (BAE) for one month, five times a day, making up 80 sessions in total. Sensory function risk was assessed with a 10g monofilament, and the results were analyzed using the Wilcoxon and Mann-Whitney tests.

Before the intervention, most participants were at moderate to high risk of neuropathy. After doing BAE, their risk levels dropped, with the majority moving into the low-risk category for both right and left feet. A significant difference was found between pre- and post-intervention scores in the treatment group ($p = 0.000$), while the control group showed no change ($p = 1.000$).

In conclusion, BAE proved effective in lowering the risk of sensory impairment and can be applied as a safe, independent nursing intervention to help prevent peripheral neuropathy complications in people with Type II Diabetes Melitus.

Keywords: Buerger Allen Exercise, Risk of Sensory Function Impairment, Type II Diabetes Melitus

References: 32 Journals, 4 Books (2018-2024)