

SKRIPSI

**PENGARUH SENAM KAKI TERSTRUKTUR TERHADAP GEJALA
NEUROPATI PERIFER DAN KADAR GLUKOSA DARAH PADA PASIEN
DIABETES MELLITUS TIPE 2 DI PUSKESMAS LUBUK BUAYA**

Penelitian Keperawatan Medikal Bedah



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Pengaruh Senam Kaki Terstruktur Terhadap Gejala Neuropati Perifer Dan Kadar Glukosa Darah Pada Pasien Diabetes Mellitus Tipe 2 Di Puskesmas Lubuk Buaya

ABSTRAK

Diabetes Mellitus (DM) tipe 2 merupakan penyakit kronis yang dapat menyebabkan berbagai komplikasi, salah satunya neuropati perifer diabetik. Neuropati perifer dapat menimbulkan gejala kesemutan, kebas, nyeri, serta meningkatkan risiko terjadinya ulkus diabetik. Selain itu, kadar glukosa darah yang tidak terkontrol dapat memperburuk kondisi tersebut. Salah satu intervensi nonfarmakologis yang dapat dilakukan adalah senam kaki terstruktur. Penelitian ini bertujuan untuk menganalisis pengaruh senam kaki terstruktur terhadap gejala neuropati perifer dan kadar glukosa darah puasa pada pasien DM tipe 2 di Puskesmas Lubuk Buaya. Penelitian ini menggunakan desain quasi experimental dengan pretest-posttest control group design. Sampel berjumlah 60 responden yang terdiri dari 30 responden kelompok intervensi dan 30 responden kelompok kontrol yang dipilih menggunakan teknik consecutive sampling. Gejala neuropati perifer diukur menggunakan Michigan Neuropathy Screening Instrument (MNSI) dan kadar glukosa darah puasa diukur menggunakan glukometer. Analisis data menggunakan uji Wilcoxon Signed Rank Test dan Mann-Whitney U Test. Hasil penelitian menunjukkan bahwa senam kaki terstruktur berpengaruh signifikan terhadap penurunan gejala neuropati perifer bagian subjektif ($p=0,000$), pemeriksaan fisik kaki kanan ($p=0,011$), pemeriksaan fisik kaki kiri ($p=0,000$), dan kadar glukosa darah puasa pada kelompok intervensi ($p=0,000$). Hasil uji Mann-Whitney menunjukkan terdapat perbedaan yang signifikan antara kelompok intervensi dan kelompok kontrol pada gejala neuropati perifer subjektif ($p=0,000$), pemeriksaan fisik kaki kanan ($p=0,000$), dan pemeriksaan fisik kaki kiri ($p=0,000$). Namun, tidak terdapat perbedaan yang signifikan kadar glukosa darah puasa posttest antara kelompok intervensi dan kelompok kontrol ($p=0,193$). Kesimpulan penelitian ini adalah senam kaki terstruktur berpengaruh dalam memperbaiki gejala neuropati perifer pada pasien Diabetes Mellitus tipe 2 dan berkontribusi terhadap penurunan kadar glukosa darah puasa pada kelompok intervensi, meskipun perbedaan kadar glukosa darah puasa antar kelompok belum menunjukkan signifikansi statistik.

Kata Kunci: Diabetes Mellitus tipe 2, senam kaki terstruktur, neuropati perifer, glukosa darah puasa.

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The Effect of Structured Foot Exercise on Peripheral Neuropathy Symptoms and Blood Glucose Levels Among Patients with Type 2 Diabetes Mellitus at Lubuk Buaya Public Health Center

ABSTRACT

Type 2 Diabetes Mellitus (T2DM) is a chronic disease that can lead to various complications, one of which is diabetic peripheral neuropathy. Peripheral neuropathy may cause symptoms such as tingling, numbness, pain, and an increased risk of diabetic foot ulcers. In addition, uncontrolled blood glucose levels may worsen the condition. One non-pharmacological intervention that can be implemented is structured foot exercise. This study aimed to analyze the effect of structured foot exercise on peripheral neuropathy symptoms and fasting blood glucose levels in patients with Type 2 Diabetes Mellitus at Lubuk Buaya Public Health Center. This study employed a quasi-experimental design with a pretest-posttest control group design. The sample consisted of 60 respondents, including 30 respondents in the intervention group and 30 respondents in the control group, selected using consecutive sampling. Peripheral neuropathy symptoms were assessed using the Michigan Neuropathy Screening Instrument (MNSI), while fasting blood glucose levels were measured using a glucometer. Data were analyzed using the Wilcoxon Signed Rank Test and Mann-Whitney U Test. The results showed that structured foot exercise had a significant effect on reducing subjective peripheral neuropathy symptoms ($p=0.000$), physical examination scores of the right foot ($p=0.011$), physical examination scores of the left foot ($p=0.000$), and fasting blood glucose levels in the intervention group ($p=0.000$). The Mann-Whitney test revealed significant differences between the intervention and control groups in subjective peripheral neuropathy symptoms ($p=0.000$), right foot physical examination scores ($p=0.000$), and left foot physical examination scores ($p=0.000$). However, no significant difference was found in posttest fasting blood glucose levels between the intervention and control groups ($p=0.193$).

In conclusion, structured foot exercise was take effect in improving peripheral neuropathy symptoms among patients with Type 2 Diabetes Mellitus and contributed to reducing fasting blood glucose levels in the intervention group, although the difference in fasting blood glucose levels between groups did not reach statistical significance.

Keywords: Type 2 Diabetes Mellitus, structured foot exercise, peripheral neuropathy, fasting blood glucose.