

## Intisari

**Latar Belakang:** Penderita DM dengan hiperglikemi kronis dapat mengakibatkan komplikasi yaitu neuropati perifer diabetik yang menyerang saraf sensorik, motorik dan otonom. Senam kaki diabetik mempunyai manfaat memperbaiki gangguan saraf sensorik (hilangnya sensori terhadap nyeri, vibrasi, tekanan dan panas), saraf motorik (kelemahan dan distal atrofi otot) dan saraf otonom (keringat berkurang, hipotensi ortostatik, nokturnal diare, inkontinensi dan retensi urin, gastroparesis dan impotensi).

**Tujuan:** Mengetahui pengaruh senam kaki diabetik terhadap gangguan saraf sensorik, motorik dan otonom pada DM Tipe II.

**Metode:** Desain studi menggunakan *quasy experiment* dengan *one group pretest posttest*. Penelitian dilakukan di Puskesmas Depok II Yogyakarta dengan sampel 45 responden. Responden diberikan tindakan senam kaki diabetik 3x seminggu selama 4 minggu. Gangguan saraf sensorik diukur menggunakan *siemens weinstein monofilament 10g*, saraf motorik menggunakan *leg dynamometer* dan saraf otonom menggunakan kuesioner SAS. Sementara, uji hipotesis dianalisis menggunakan Mcnemar untuk gangguan saraf sensorik, Wilcoxon untuk gangguan saraf motorik dan gangguan saraf otonom

**Hasil:** Hasil penelitian menunjukkan sebelum perlakuan terdapat 40 responden yang mengalami gangguan saraf sensorik, namun sesudah perlakuan menjadi 10 responden. Untuk kekuatan otot motorik sebelum perlakuan memiliki nilai median 32 dan meningkat sesudah perlakuan menjadi 45. Gangguan saraf otonom sebelum perlakuan memiliki nilai median 4 dan sesudah perlakuan menjadi 3.

**Kesimpulan:** Pemberian senam kaki diabetik berpengaruh terhadap gangguan saraf sensorik, motorik dan otonom. Penelitian ini merekomendasikan perlunya pemberian senam kaki diabetik sebagai salah satu tindakan dalam upaya penurunan gejala neuropati perifer diabetik.

**Kata Kunci:** Senam Kaki; Neuropati Perifer; Saraf Sensorik; Saraf Motorik; Saraf Otonom

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## Abstract

**Background:** Patient with chronic hyperglycemia can lead to complications, namely diabetic peripheral neuropathy that attacks sensory, motor and autonomic nerves. Diabetic foot exercise has the benefit of improving sensory nerve disorders (loss of sensory to pain, vibration, pressure and heat), motor nerves (weakness and distal muscle atrophy) and autonomic nerves (reduced sweating, orthostatic hypotension, nocturnal diarrhea, urinary incontinence and retention, gastroparesis) and impotence).

**Objective:** To determine the effect of diabetic foot exercises on sensory, motor and autonomic nerve disorders in Type II DM.

**Methods:** Study design used quasy experiment with one group pretest posttest. The study was conducted at the Depok II Public Health Center in Yogyakarta with a sample of 45 respondents. Respondents were given diabetik foot exercises three times a week for 4 weeks. Sensory nerve disorders were measured using Siemens Weinstein Monofilament 10g, motor nerves using leg dynamometer and autonomic nerves using SAS questionnaire. Hhypothesis tested was analyzed used Mcnemar for sensory nerve disorders, Wilcoxon for motor nerve disorders in men and Paired t test for motor nerve disorders in women. Autonomic nerve disorders use Wilcoxon test

**Results:** The results showed that before treatment there were 40 respondents who experienced sensory neurological disorders, but after treatment there were 10 respondents. For motor muscle strength before treatment has a median value of 32 and increases after treatment becomes 45. Autonomic nerve disorders before treatment has a median value of 4 and after treatment is 3.

**Conclusion:** Gived diabetik foot exercises affects the sensory, motor and autonomic disorders. This study recommends the need for diabeitic foot exercises as an effort to reduce the symptoms of diabetic peripheral neuropathy.

Keywords: Diabetic Foot Exercise, Diabetic Neuropathy Peripheral, Sensory Nerves, Motor Nerves, Autonomic Nerves

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