ABSTRAK

Sabrina Qotrunnada Ramadhani (2026). *Implementasi Senam Kaki Diabetes Kombinasi Bola Bergerigi Pada Penderita Diabetes Mellitus Tipe 2 yang Mengalami Gangguan Sensitivitas Kaki di Wilayah Puskesmas Kedungkandang Malang.* Karya Tulis Ilmiah Studi Kasus, Program Studi DIII Keperawatan Malang, Jurusan Keperawatan Malang, Politeknik Kesehatan Kemenkes Malang. Pembimbing: Budiono, S.Kp., M.Kes.

Diabetes Mellitus tipe 2 merupakan penyakit metabolik kronis yang dapat menyebabkan neuropati perifer sehingga menurunkan sensitivitas kaki dan meningkatkan risiko ulkus diabetikum hingga amputasi. Salah satu intervensi non-farmakologis yang dapat dilakukan adalah senam kaki diabetes kombinasi bola bergerigi yang memberikan stimulasi sensorik serta membantu memperlancar sirkulasi darah. Penelitian ini bertujuan untuk mendeskripsikan respon subjektif dan perkembangan sensitivitas kaki dan respon subjektif penderita selama implementasi. Penelitian ini menggunakan desain deskriptif dengan pendekatan studi kasus pada dua pasien DM tipe 2 di wilayah kerja Puskesmas Kedungkandang Malang. Pengumpulan data dilakukan selama dua minggu melalui enam kali kunjungan menggunakan metode wawancara, observasi, dan dokumentasi, serta pengukuran sensitivitas kaki menggunakan monofilament 10 gram. Hasil penelitian menunjukkan adanya perkembangan sensitivitas kaki pada kedua subjek. Subjek 1 mengalami perubahan dari 8 titik (kanan) dan 7 titik (kiri) menjadi 10 titik (kanan) dan 9 titik (kiri). Subjek 2 mengalami perubahan dari 7 titik (kanan) dan 6 titik (kiri) menjadi 8 titik pada kedua kaki. Perubahan tersebut terjadi secara bertahap selama enam kali pengukuran. Selain itu, respon subjektif menunjukkan penurunan keluhan neuropati seperti kesemutan, kebas, dan nyeri, serta adanya perubahan kenyamanan pada kaki. Senam kaki diabetes kombinasi bola bergerigi dapat menjadi salah satu intervensi non-farmakologis yang membantu mendukung perbaikan sensitivitas kaki dan kenyamanan pada penderita DM tipe 2.

Kata kunci: Diabetes Mellitus tipe 2, sensitivitas kaki, senam kaki diabetes, bola bergerigi, neuropati diabetik.

ABSTRACT

Sabrina Qotrunnada Ramadhani (2026*). Implementation of Diabetic Foot Exercise Combined with a Spiky Ball in Patients with Type 2 Diabetes Mellitus Experiencing Impaired Foot Sensitivity in the Kedungkandang* Public Health Center Area, Malang. Case Study Scientific Paper, Diploma III Nursing Program, Department of Nursing, Health Polytechnic of the Ministry of Health Malang. Advisor: Budiono, S.Kp., M.Kes.

Type 2 Diabetes Mellitus is a chronic metabolic disease that can cause peripheral neuropathy, leading to decreased foot sensitivity and increasing the risk of diabetic ulcers and even amputation. One of the non-pharmacological interventions that can be applied is diabetic foot exercise combined with a spiky ball, which provides sensory stimulation and helps improve peripheral blood circulation. This study aimed to describe subjective responses and the progression of foot sensitivity during the implementation period. This study used a descriptive design with a case study approach involving two patients with Type 2 Diabetes Mellitus in the working area of the Kedungkandang Public Health Center, Malang. Data were collected over two weeks through six visits using interviews, observation, and documentation, as well as foot sensitivity measurement using a 10-gram monofilament test. The results showed an improvement in foot sensitivity in both subjects. Subject 1 changed from 8 points (right) and 7 points (left) to 10 points (right) and 9 points (left). Subject 2 changed from 7 points (right) and 6 points (left) to 8 points on both feet. These changes occurred gradually across the six measurements. In addition, subjective responses showed a reduction in neuropathic symptoms such as tingling, numbness, and pain, as well as improved foot comfort. Diabetic foot exercise combined with a spiky ball can be considered a non-pharmacological intervention that supports the improvement of foot sensitivity and comfort in patients with Type 2 Diabetes Mellitus.

Keywords: Type 2 Diabetes Mellitus, foot sensitivity, diabetic foot exercise, spiky ball, diabetic neuropathy.