

Efektivitas latihan kombinasi Buerger Allen dan Range of Motion Kaki terhadap perbaikan vaskularisasi dan neuropati perifer pada pasien diabetes melitus tipe 2 = The effectiveness of Buerger Allen and Foot Range of Motion combination exercise on the improvement of peripheral vascularization and neuropathy in patients with type 2 diabetes mellitus

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Abstrak

Latar Belakang. Pasien diabetes melitus (DM) berisiko mengalami komplikasi pada sistem vaskular dan persyarafan, khususnya pada bagian perifer, yang jika tidak tertangani dengan baik dapat berimbas pada terjadinya luka kaki diabetes. Buerger Allen Exercise (BAE) merupakan salah satu pilihan terapi konservatif yang terbukti efektif dalam menangani Peripheral Artery Disease (PAD). Sayangnya beberapa penelitian sebelumnya belum membuktikan efektivitasnya. Pada penelitian ini akan BAE akan dikombinasikan dengan latihan Range of Motion (ROM) kaki untuk melihat efektivitasnya pada vaskularisasi dan neuropati perifer. Tujuan. Penelitian ini bertujuan untuk mengidentifikasi efektivitas latihan kombinasi BAE dan ROM kaki terhadap perbaikan vaskularisasi dan neuropati perifer pada pasien DM tipe 2. Metode. Desain penelitian yang digunakan adalah quasi experiment with pre test-post test two groups dengan total 72 orang pasien DM tipe 2 sebagai responden. Responden dibagi rata secara acak ke dalam kelompok intervensi dan kelompok kontrol. Kelompok intervensi mendapatkan latihan kombinasi BAE dan ROM kaki, sedangkan kelompok kontrol mendapatkan latihan tunggal BAE. Setiap kelompok melaksanakan latihan kaki selama dua minggu dengan 2 siklus latihan perhari dan total durasi 30 menit. Sebelum dan setelah latihan, responden dikaji nilai Ankle Brachial Index (ABI) untuk menilai vaskularisasi dan nilai Michigan Neuropathy Screening Instruments (MNSI) untuk menilai neuropati. Hasil. Latihan kombinasi BAE dan ROM kaki lebih efektif dalam meningkatkan nilai ABI daripada latihan tunggal BAE (pvalue 0,00). Latihan kombinasi BAE dan ROM kaki juga lebih efektif dalam menurunkan nilai MNSI daripada latihan tunggal BAE (pvalue 0,00). Kesimpulan Latihan kombinasi BAE dan ROM kaki efektif dalam memperbaiki vaskularisasi dan neuropati perifer melalui perbaikan nilai ABI dan MNSI.

.....Background. Patients with diabetes mellitus (DM) are at risk of experiencing complications in the vascular and nervous system, especially in the peripheral areas. These complications can lead to even worse complication without proper intervention such as diabetic foot wounds. Buerger Allen Exercise (BAE) is a conservative therapy option that has been proven effective in treating Peripheral Artery Disease (PAD). Unfortunately, the effect of BAE on neuropathy has not been clearly proven. In this study, BAE will be combined with foot Range of Motion (ROM) exercises to see its effectiveness on vascularization and peripheral neuropathy. Objective. This study aims to identify the effectiveness of combined BAE and foot ROM exercises to improve vascularization and peripheral neuropathy in type 2 DM patients. Methods. Quasi experiment with pre test-post test two groups design was conducted on total of 72 type 2 DM patients. Respondents were divided randomly into intervention and control group. The intervention group received a combination of BAE and foot ROM exercises, while the control group received single BAE exercises. Each group carried out leg training for two weeks with 2 training cycles per day and a total duration of 30

minutes. Before and after exercise Ankle Brachial Index (ABI) score and the Michigan Neuropathy Screening Instruments (MNSI) score were assessed. Results. Combination BAE and foot ROM exercise was more effective in increasing ABI score than BAE-only exercise (pvalue 0.00). The combination of BAE and foot ROM combination was also more effective in reducing the MNSI score than BAE-only exercise (pvalue 0.00). Conclusion: Combination exercise of BAE and foot ROM is effective in improving vascularization and peripheral neuropathy as shown by improved ABI and MNSI score.