

APPLICATION OF DIABETIC FOOT EXERCISE AND RUBBER BALL TRAINING IN TYPE 2 DIABETES MELLITUS PATIENTS WITH INEFFECTIVE PERIPHERAL PERFUSION IN THE MELATI WARD OF RSUD BANGIL

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ABSTRACT

Impaired peripheral perfusion is a vascular complication that frequently occurs in patients with Type 2 Diabetes Mellitus as a result of chronic hyperglycemia, which reduces blood flow to the lower extremities and increases the risk of diabetic foot ulcers leading to amputation. This study aimed to analyze the effect of applying diabetic foot exercises and rubber ball exercises on peripheral perfusion in patients with Type 2 Diabetes Mellitus experiencing ineffective peripheral perfusion. This study employed a qualitative descriptive design using a nursing care process approach in the form of a case study of one patient with Type 2 Diabetes Mellitus in RSUD Bangil. Data were collected through interviews, observation, physical examination, and documentation. The diabetic foot exercise and rubber ball exercise interventions were administered over four days, with a duration of 30 minutes per day. The evaluation results showed an improvement in peripheral perfusion, indicated by a decrease in paresthesia complaints, an improvement in capillary refill time from 4 seconds to 2 seconds, warm extremities, an increase in the strength of the dorsalis pedis pulse from diminished (1+) to normal (2+), and an increase in Ankle Brachial Index values from 0.86 to 0.93 (right) and from 0.89 to 0.95 (left). These changes are associated with increased muscle pump activity and stimulation of nitric oxide (NO) release, which contribute to vasodilation and a reduction in peripheral vascular resistance, thereby enhancing tissue perfusion in the lower extremities of patients with Type 2 Diabetes Mellitus. This case study demonstrated a positive change in peripheral perfusion following the application of diabetic foot exercises and rubber ball exercises in a patient with Type 2 Diabetes Mellitus experiencing ineffective peripheral perfusion.

Keywords: Type 2 Diabetes Mellitus, Ineffective Peripheral Perfusion, Diabetic Foot Exercise, Rubber Ball Training, Ankle Brachial Index