

ABSTRAK

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PENGARUH LATIHAN RANGE OF MOTION (ROM) TEKNIK
MENGGENGAM BOLA KARET BERGERIGI TERHADAP PERUBAHAN
KEKUATAN OTOT JARI TANGAN PADA PASIEN STROKE
DIPUSKESMAS MEDOKAN AYU RUNGKUT SURABAYA

Stroke mencerminkan gangguan peredaran darah otak yang menimbulkan defisit neurologis, mengindikasikan penurunan kemampuan aktivitas harian serta melemahkan otot, kondisi ini disebut hemiparesis. Latihan menggenggam bola karet bergerigi merepresentasikan stimulasi neuromuskuler yang mendorong produksi asetilkolin melalui saraf parasimpatis, sehingga kontraksi otot terjadi. Aktivitas ini mencerminkan peningkatan kekuatan jari tangan pada pasien stroke.

Rancangan penelitian ini merepresentasikan model One Group Pre-Post Test Design dengan pendekatan kuantitatif. Kekuatan otot jari tangan dicerminkan melalui pengukuran Handgrip Dynamometer pada fase pra dan pascaintervensi. Analisis data dilakukan menggunakan Wilcoxon Signed Rank Test, yang mengindikasikan perbedaan kondisi sebelum dan sesudah perlakuan.

Temuan penelitian mengindikasikan bahwa sebelum diberikan latihan menggenggam bola karet bergerigi, seluruh pasien stroke berada dalam kondisi otot jari yang lemah. Sesudah latihan, mayoritas pasien beralih ke kategori normal, dengan hanya sebagian kecil tetap lemah. Uji statistik Wilcoxon Signed Rank Test menunjukkan nilai $p = 0,000$ ($p < \alpha 0,05$), merepresentasikan diterimanya H_1 , yakni terdapat perbedaan bermakna antara kondisi sebelum dan sesudah intervensi.

Latihan ROM dengan teknik menggenggam bola karet bergerigi terbukti memberikan pengaruh terhadap peningkatan kekuatan otot jari tangan pada pasien stroke di Puskesmas Medokan Ayu Surabaya.

Kata Kunci: Stroke, Kekuatan Otot, *Range Of Motion (ROM)*, Bola Karet Bergerigi.

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THE EFFECT OF RANGE OF MOTION (ROM) EXERCISE OF GRAINING A
ROOTED RUBBER BALL TECHNIQUE ON CHANGES IN FINGER
MUSCLE STRENGTH IN STROKE PATIENTS AT MEDOKAN AYU
RUNGKUT PUBLIC HEALTH CENTER, SURABAYA

Stroke involves impaired cerebral blood circulation that produces neurological deficits, limiting daily functioning and muscle strength, known as hemiparesis. Gripping a ridged rubber ball stimulates neuromuscular activity and parasympathetic nerve fibers, promoting acetylcholine release and contraction. This activity enhances finger muscle strength in stroke patients.

This research adopted a quantitative approach with a One Group Pre-Post Test Design. Measurement of hand grip strength was conducted using a Handgrip Dynamometer before and after the intervention. The collected data were examined using the Wilcoxon Signed Rank Test, which reflects the statistical comparison of pre- and post-intervention outcomes.

Prior to gripping the serrated rubber ball, all stroke patients were identified as weak. After the exercise, most patients were categorized as normal, with only a few remaining weak. The Wilcoxon Signed Rank Test showed a p-value of 0.000 ($p < \alpha 0.05$), indicating H_1 was accepted and confirming a significant effect of the intervention on muscle strength.

ROM training using serrated rubber balls demonstrates a significant effect on finger muscle strength in stroke patients at the Medokan Ayu Rungkut Community Health Center, Surabaya.

Keyword: Stroke, Muscle Strength, Range Of Motion (ROM), Spiked Rubber Ball.