

# Efektivitas Penambahan Latihan Penguatan Ekstremitas Bawah Terhadap Skor *Frailty Phenotype* Lansia *Pre-frail* yang Mendapatkan *Square-Stepping Exercise*

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## ABSTRAK

**Latar belakang :** *Pre-frailty* merupakan sebuah kondisi predisposisi sebelum terjadi *frailty*. Status *frailty* didasarkan pada kriteria sindrom *frailty* yang terdiri dari lima gejala yaitu penurunan berat badan, kelelahan, kelemahan, penurunan kecepatan berjalan, dan penurunan aktivitas fisik. *Pre-frail* merupakan kondisi yang dinamis dan dapat diperbaiki terutama dengan latihan fisik multi komponen yaitu terdiri dari komponen penguatan, ketahanan, keseimbangan, dan fleksibilitas. Sejauh ini belum ada penelitian yang mengkombinasikan *square-stepping exercise* (SSE) yang banyak digunakan sebagai latihan keseimbangan dengan latihan penguatan ekstremitas bawah pada lansia *pre-frail*.

**Tujuan :** Mengetahui efektivitas penambahan latihan penguatan ekstremitas bawah terhadap skor *frailty phenotype* pada lansia *pre-frail* yang mendapatkan SSE.

**Metode :** Penelitian ini menggunakan *experimental* dengan *randomized control trial* pada lansia *pre-frail* berusia 60-70 tahun. Subjek penelitian dibagi menjadi 2 kelompok terdiri dari masing-masing 19 orang. Kelompok kontrol mendapatkan SSE 3 kali per minggu sedangkan kelompok perlakuan mendapatkan SSE 3 kali per minggu ditambah latihan penguatan ekstremitas bawah 2 kali per minggu selama 6 minggu.

**Hasil :** Pada analisis masing-masing kelompok, baik pada kelompok perlakuan maupun kelompok kontrol terdapat perbaikan skor *frailty phenotype*. Pada kelompok kontrol terdapat 10 subyek (55,56%) yang mengalami perbaikan skor *frailty phenotype* menjadi 0 (*robust*). Sementara pada kelompok perlakuan terdapat 11 subyek (64,71%) mengalami perbaikan skor *frailty phenotype* menjadi 0 (*robust*).

**Kesimpulan:** Dari penelitian ini dapat disimpulkan bahwa SSE dapat memperbaiki skor *frailty phenotype* pada lansia *pre-frail*, dan penambahan latihan penguatan ekstremitas bawah pada SSE secara signifikan memperbaiki skor *frailty phenotype* lansia *pre frail* dibandingkan SSE saja.

**Kata kunci :** *pre-frail, frailty phenotype, square-stepping exercise*

***Effectiveness of Adding Lower Extremity Strengthening Exercises to the Frailty Phenotype Score of Pre-frail Elderly Who Receive Square-Stepping Exercise***

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***ABSTRACT***

***Background*** : Pre-frailty is a predisposing condition before frailty occurs. Frailty status is based on the criteria for frailty syndrome which consists of five symptoms : weight loss, fatigues, weakness, decreased walking speed, and decreased physical activity. Pre-frail is a dynamic condition and can be improved, especially with multi-component physical training, consist of strengthening, endurance, balance, and flexibility components. So far there has been no research that combines square-stepping exercise (SSE), which is a balance exercise, with lower extremity strengthening exercise in pre-frail elderly.

***Objective*** : To determine the effectiveness of additional lower extremity strengthening exercise on frailty phenotype score in pre-frail elderly who receive SSE.

***Method***: This study used an experimental, randomized control trial on pre-frail elderly aged 60-70 years. Research subjects were divided into 2 groups consisting of 19 people each. The control group received SSE 3 times per week while the treatment group received SSE 3 times per week plus lower extremity strengthening exercises 2 times per week for 6 weeks.

***Results***: In the analysis of each group, in both the treatment and control groups there was an improvement in frailty phenotype scores. In the control group there were 10 subjects (55.56%) who experienced an improvement in the frailty phenotype score to 0 (robust). Meanwhile, in the treatment group, 11 subjects (64.71%) experienced an improvement in their frailty phenotype score to 0 (robust).

***Conclusion*** : From the study it can be concluded that SSE can improve frailty phenotype score in pre-frail elderly, and the addition of lower extremity strengthening exercise to SSE significantly improve frailty phenotype score in elderly compared to SSE alone.

***Key words*** : pre-frail, frailty phenotype, square-stepping exercise