

ABSTRAK

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Pengaruh Penambahan *Four Square Step* exercise Terhadap Keseimbangan Dinamis Pada Lansia Penderita *Osteoarthritis Knee* Di RSUD Kaje

Pendahuluan: Lansia mengalami penurunan fungsi tubuh alami sehingga rentan terhadap penyakit degeneratif seperti *osteoarthritis knee*. *Osteoarthritis knee* ditandai dengan nyeri, kekakuan sendi, dan kelemahan otot, serta berdampak signifikan dalam menjaga keseimbangan dinamis lansia. Penurunan keseimbangan dinamis yang tidak dikendalikan dapat meningkatkan resiko jatuh pada lansia. Upaya fisioterapi dalam meningkatkan keseimbangan dinamis lansia penderita *osteoarthritis knee* dapat dilakukan dengan memberikan latihan keseimbangan dinamis yaitu penambahan intervensi *four square step exercise*.

Metode : Desain penelitian ini berupa kuantitatif eksperimen dengan pendekatan *quasi experimental*. Sampel diperoleh secara total sampling dengan jumlah 42 responden yang dibagi menjadi 2 kelompok yaitu 21 responden kelompok eksperimen dengan penambahan *four square step exercise* dan 21 responden kelompok kontrol yang hanya diberi modalitas *infra red*. Analisa data menggunakan analisis univariat dan bivariat dengan alat ukur keseimbangan dinamis *time up go test*. Uji normalitas menggunakan shapiro-wilk, uji homogenitas dengan uji levene serta uji pengaruh independent t test.

Hasil : Terdapat pengaruh pemberian Penambahan *Four Square Step Exercise* Terhadap Keseimbangan Dinamis Pada Lansia Penderita *Osteoarthritis Knee* Di RSUD Kaje. Hasil analisis uji independent t-test membuktikan adanya perbedaan, dilihat dari Sig (2-tailed) bernilai 0,002. Maka menunjukkan H_a diterima, yang berarti adanya pengaruh penambahan *four square step exercise* terhadap keseimbangan dinamis. Hasil analisa uji independent t-test keseimbangan dinamis pada post-test kelompok eksperimen memperoleh nilai mean 14.4619 dan post-test kelompok kontrol 17.3029 .

Dikusi : Penambahan *four square step exercise* berpengaruh terhadap keseimbangan dinamis pada lansia penderita *osteoarthritis knee* di RSUD kaje.

Kata Kunci : Lansia, *Osteoarthritis Knee*, Keseimbangan Dinamis, *Four Square Step Exercise*

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ABSTRACT

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The Effect of Adding Four-Square Step Exercise on Dynamic Balance in Elderly Patients with Knee Osteoarthritis at RSUD Kajen

Introduction: Elderly individuals experience a natural decline in bodily functions, making them more susceptible to degenerative diseases such as knee osteoarthritis. Knee osteoarthritis is characterized by joint pain, stiffness, and muscle weakness, which significantly affect the ability to maintain dynamic balance in the elderly. A decrease in dynamic balance, if not addressed, may increase the risk of falls in this population. One physiotherapy effort to improve dynamic balance in elderly patients with knee osteoarthritis is through the addition of dynamic balance training, namely the Four-Square Step Exercise (FSSE) intervention.

Method: This study employed a quantitative experimental design with a quasi-experimental approach. The sample was obtained using total sampling, with 42 respondents divided into two groups: 21 respondents in the experimental group who received the Four-Square Step Exercise intervention, and 21 respondents in the control group who received only infrared modality treatment. Data were analysed using univariate and bivariate analysis, with the Timed Up and Go Test as the measurement tool for dynamic balance. Normality was tested using the Shapiro-Wilk test, homogeneity with Levene's test, and the effect was analysed using the independent t-test.

Results: The study found a significant effect of the addition of the Four-Square Step Exercise on dynamic balance in elderly patients with knee osteoarthritis at RSUD Kajen. The results of the independent t-test analysis showed a significant difference, with a Sig. (2-tailed) value of 0.002, indicating that the alternative hypothesis (H_a) was accepted. This means that the addition of the Four-Square Step Exercise had a significant effect on dynamic balance. The post-test analysis revealed that the experimental group had a mean score of 14.4619, while the control group had a mean score of 17.3029.

Discussion: The addition of the Four-Square Step Exercise has a significant impact on improving dynamic balance in elderly patients with knee osteoarthritis at RSUD Kajen.

Keywords: Elderly, Knee Osteoarthritis, Dynamic Balance, Four Square Step Exercise

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