

**PENGARUH LATIHAN *ISOMETRIC QUADRICEPS* TERHADAP
PENURUNAN SKALA NYERI DAN KEKAKUAN SENDI LUTUT
PADA KLIEN *OSTEOARTHRITIS* LUTUT DI WILAYAH
PUSKESMAS GAMPING II SLEMAN YOGYAKARTA**

Nurun Laasara, , Yoni Astuti, Ambar Relawati
Program Magister Keperawatan Universitas
Muhammadiyah Yogyakarta
(nlaasara@yahoo.com)

ABSTRAK

Latar Belakang: *Osteoarthritis* lutut merupakan penyakit sendi degeneratif yang banyak dijumpai dan dimanifestasikan dengan nyeri dan kekakuan sendi lutut. Keadaan tersebut dapat mengganggu aktivitas sehari-hari penderita. Salah satu tindakan non farmakologi yang dapat mengurangi nyeri dan kekakuan sendi adalah latihan *isometric quadriceps*. Gerakan yang berulang pada otot *quadriceps* akan meningkatkan kerja otot-otot sekitar sendi lutut sehingga melancarkan aliran darah dan merangsang pengeluaran hormon endorphin yang dapat menurunkan sensasi nyeri dan kekakuan sendi lutut.

Tujuan Penelitian: Mengetahui penurunan nyeri dan kekakuan sendi lutut sebelum dan setelah melakukan latihan penguatan *isometric quadriceps*.

Metode Penelitian: Jenis penelitian ini *quasi experiment pretest-posttest with control group design*. Populasi dalam penelitian ini adalah 52 responden yang menderita *osteoarthritis* lutut, dibagi dalam kelompok perlakuan dan kelompok kontrol. Responden kelompok perlakuan diberikan latihan *isometric quadriceps* seminggu dua kali selama empat minggu dan kelompok kontrol minum obat dan melakukan aktifitas sehari-hari seperti biasa. *Pre* dan *post test* dilakukan pada kedua kelompok untuk mengetahui penurunan skala nyeri dan kekakuan sendi lutut. Analisis data menggunakan analisis *Wilcoxon Signed Rank Test, Paired T-test* dan *Mann whitney* pada taraf signifikansi $p\text{-value} < 0,05$.

Hasil Penelitian: Pada kelompok perlakuan didapatkan penurunan rerata nilai skala nyeri sebesar 1,6 dan peningkatan rentang gerak sendi lutut sebesar 28,2. Uji *Paired T-test* dan *Wilcoxon Signed Rank*, nilai $p\text{-value} < 0,05$ yang menunjukkan bahwa ada perbedaan yang signifikan sebelum dan setelah dilakukan latihan *isometric quadriceps* pada kelompok perlakuan, sedangkan pada kelompok kontrol tidak ada perbedaan yang signifikan $p\text{-value} > 0,05$.

Kesimpulan: Ada perbedaan yang signifikan penurunan skala nyeri dan kekakuan sendi lutut pada penderita *osteoarthritis* lutut yang diberikan latihan *isometric quadriceps* dengan yang tidak diberikan latihan.

Kata Kunci: *osteoarthritis* lutut, nyeri sendi lutut, kekakuan sendi lutut, latihan *isometric quadriceps*.

**THE INFLUENCE OF QUADRICEPS ISOMETRIC EXERCISE ON
DECREASE OF PAIN SCALE AND KNEE JOINT STIFFNESS AMONG
OSTEOARTHRITIS CLIENTS AT PUSKESMAS
GAMPING II SLEMAN YOGYAKARTA**

Nurun Laasara, , Yoni Astuti, Ambar Relawati
Nursing Masters Program Muhammadiyah University of Yogyakarta
(nlaasara@yahoo.com)

ABSTRACT

Background: Osteoarthritis is a degenerative joint disease that is commonly seen an manifested by pain and joint stiffnes. One of non-pharmacological intervention that can relieve is isometric quadriceps. Repetitive movements of quadriceps muscle will increase muscle flexibility around the knee joint so that blood flow improves metabolism and also release of endorphin hormones that can reduce knee joint pain and stiffness.

Objective: To determine the decrease of knee joint pain and stiffness after performing isometric quadrisep muscle strengthening exercises among knee osteoarthritis clients.

Research Method: This research was a quasi-experimental pretest-posttest with control group design. The population in this study were 52 respondents knee osteoarthritis divided into treatment and control groups. Respondents in the treatment group were given quadriceps isometric exercise twice a week for four weeks and the control group took medication and performed daily activities as usual. Pre and post tests were carried out in both groups to determine the decrease of knee joint pain and stiffness. Researcher was using data analysis : Wilcoxon Signed Rank Test, Paired T-test and Mann Whitney analysis at p-value significance level <0.05.

Results: The subject in the treatment group showed a decrease in the average value of pain scale 1.6 and an increase in the average value of joint range motion at 28,2, where as in control group an increase of average value of pain scale and increase of joint range motion at .Paired T-test and Wilcoxon Signed Rank test showed p-value <0.05 which showed that there were significant differences before and after quadriceps isometric exercise in the treatment group, whereas in the control groups there is no significant difference p-value > 0.05.

Conclusion: *There were significant differences in the decrease of pain scale and knee joint stiffness among knee osteoarthritis clients who were given quadriceps isometric exercise with those who were not given exercise*

Keywords: *Knee osteoarthritis, Knee joint pain, Knee joint stiffness, Quadriceps Isometric Exercise.*