

ABSTRAK

Perbandingan Efektivitas *High Intensity Laser Therapy* Dengan *Low Level Laser Therapy* Terhadap Perbaikan Fungsional Pada Pasien Osteoarthritis Lutut

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Latar Belakang : Osteoarthritis lutut menyebabkan nyeri, kekakuan sendi, deformitas progresif dan gangguan fungsional. Terapi saat ini berfokus pada peningkatan fungsi dan menghilangkan gejala terutama nyeri. Terdapat 2 macam terapi laser yaitu *Low Level Laser Therapy (LLLT)* dan *High Intensity Laser Therapy (HILT)*. *High Intensity Laser Therapy (HILT)* adalah radiasi laser intensitas tinggi dengan aksi fotokimia, fototermal, dan fotomekanis memiliki banyak manfaat terapeutik termasuk efek analgetik, anti-edema, dan biostimulasi. Dalam penelitian ini diselidiki perbandingan efektivitas pemberian *HILT* dengan *LLLT* dalam perbaikan fungsional pada osteoarthritis lutut yang dinilai dengan *Knee Injury and Osteoarthritis Outcome Score (KOOS)*.

Tujuan : Untuk mengetahui perbandingan efektivitas *HILT* dengan *LLLT* terhadap perbaikan fungsional pada pasien osteoarthritis lutut.

Metode : Penelitian ini merupakan *quasi experimental pre test and post test with controlled group design*. Terdapat 27 subjek pasien osteoarthritis lutut yang dibagi menjadi 2 kelompok perlakuan, yaitu kelompok perlakuan pertama mendapat terapi *HILT* (14 orang) dan kelompok perlakuan kedua mendapat terapi *LLLT* (13 orang). *Knee Injury and Osteoarthritis Outcome Score* diukur sebelum dan sesudah 4 minggu perlakuan.

Hasil : Terdapat perbedaan bermakna rerata nilai perbaikan fungsional diukur dengan *KOOS* sebelum dan sesudah perlakuan pada masing – masing kelompok ($p < 0,001$) dan terdapat perbedaan bermakna rerata nilai *KOOS* pada kedua kelompok ($p < 0,001$).

Simpulan : Pemberian *HILT* terbukti lebih besar meningkatkan perbaikan fungsional dibandingkan dengan pemberian *LLLT* pada pasien osteoarthritis lutut.

Kata Kunci : Osteoarthritis lutut, fungsional lutut, *HILT*, *LLLT*

ABSTRACT

Comparison of High Intensity Laser Therapy and Low Level Laser Therapy on Knee Functional Improvement of Knee Osteoarthritis Patients

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Background : Knee osteoarthritis causes pain, joint stiffness, progressive deformity and functional impairment. Current therapeutic focus on improving function and relieving symptoms, especially pain. There are 2 types of laser therapy, namely Low Level Laser Therapy (LLLT) and High Intensity Laser Therapy (HILT). High Intensity Laser Therapy (HILT) is a high-intensity laser radiation with photochemical, photothermal, and photomechanical action having many therapeutic benefits including analgesic, anti-edematous, and biostimulating effects. In this study, we investigated the comparison of the effectiveness of HILT with LLLT in functional improvement in knee osteoarthritis assessed by the Knee Injury and Osteoarthritis Outcome Score (KOOS).

Objective : To compare the effectiveness of HILT with LLLT on functional improvement in patients with knee osteoarthritis.

Methods : This research is a quasi experimental pre test and post test with controlled group design. There were 27 subjects of knee osteoarthritis patients who were divided into 2 treatment groups, the first treatment group receiving HILT therapy (14 people) and the second treatment group receiving LLLT therapy (13 people). Knee Injury and Osteoarthritis Outcome Score was measured before and after 4 weeks of treatment.

Results : There was a significant difference in the mean value of functional improvement as measured by KOOS before and after treatment in each group ($p < 0.001$) and there was a significant difference in the mean value of KOOS in the two groups ($p < 0.001$).

Conclusion : The administration of HILT has been shown to significantly improve functional improvement compared to the administration of LLLT in patients with knee osteoarthritis.

Keywords : Knee osteoarthritis, functional knee, HILT, LLLT