ABSTRACT

Objective: To analized correlation of Quadrceps muscles and Hamstring muscles strenght with the pain and radiologic grading of knee osteoarthritis on geriatric female
Design: analytic observasional ,cross sectional
Setting: Physical Medicine and Rehabilitation Laboratory.
Participants: Thirty eight geriatric female (mean age 67.18 ± 4.91) Interventions: All subject are being assessed for pain scale using the numeric rating scale. After that, all subject conduct 1RM protocol using EN-Tree to measure the quadriceps and hamstring muscles strength. The knee X-ray on the antero-posterior and lateral view are performed to determine the osteoarthritis grade.
Main Outcome Measures: Numeric rating scale (NRS), 1RM of the quadriceps muscles and hamstring (kg), and the radiologic grading for knee osteoarthritis.
Results: The mean of NRS is 3.68 ± 1.19 , 1RM quadriceps muscles is 2.68 ± 1.23, 1RM hamstring muscles is 1.11 ± 0.44, ratio of the quadrisep/hamstring (Q/H) is 2.53 ± 0.95. Thirty Participants are grade 2 of radiologic finding, and 8 participants are grade 3.
Conclusions: The 1RM of the quadriceps and hamstring muscles has no correlation with the NRS. The 1RM of the quadriceps and hamstring muscles on the radiologic grade 2 and radiologic grade 3 participants are no different. There is positive correlation between Q/H ratio with the NRS. The Q/H ratio on the radiologic grade 2 and radiologic grade 3 participants are different.
Keywords: NRS, 1RM of the Quadriceps and Hamstring, Q/H ratio, radiologic grade