

**COMPARISON OF HAMSTRING MUSCLE LENGTH BETWEEN PATIENTS WITH OSTEOARTHRITIS OF THE KNEE AND WITHOUT OSTEOARTHRITIS OF THE KNEE**

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Osteoarthritis (OA) of the knee is one of the leading causes for knee pain and functional limitations in elderly people. This leads to limited range of motion (ROM) of the joint and muscle flexibility. The Hamstring muscle complex acts as flexors of the knee joint and OA is thought to cause muscle weakness, atrophy and shortening in this group. The objective of this study was to assess the relationship between OA of the knee joint and the Hamstring Muscle Length (HML).

A descriptive cross sectional analytical study was carried out with 100 participants between 40-60 years from National Hospital of Sri Lanka (NHSL). Of those 50 had unilateral OA of the knee and 50 were control subjects (people without OA of the knee). Demographic data was collected using an interviewer administered questionnaire. A Visual analogue scale (VAS) was used to assess the degree of existing knee pain prior to taking measurements. Knee Injury and Osteoarthritis Outcome Score (KOOS) was used to assess the severity and associated disabilities of knee. Passive knee extension (PKE) test was used to measure HML.

Mean age for patients with OA of the knee was 51 years ( $SD\pm 5.42$ ) while it was 50 years ( $SD\pm 5.23$ ) in the control group. The body weight of the group with OA of the knee was significantly higher ( $p<0.05$ ) than that of the control group. There was no significant difference between left and right HML of control subjects (left= $148.280\pm 2.84$ , right= $148.490\pm 2.71$ ,  $n=50$ ,  $p>0.05$ ). HML of those with OA of the knee were significantly lower than the HML of the control group ( $p<0.05$ ). A significant difference was found in HML between the two legs of the patients (OA leg= $141.650\pm 3.03$ , non OA leg= $146.460\pm 3.02$ ,  $n=50$ ,  $p<0.05$ ). There was a significant positive correlation between HML of those with OA and KOOS subscales of 'symptoms' and 'pain' ( $r=0.363$ ,  $p=0.009$ ;  $r=0.397$ ,  $p=0.004$ ). However, the positive correlation between HML OA patients and KOOS subscales of 'activities of daily living' (ADL), 'sports and recreational functions' (sports/rec) and 'knee related quality of life' was non-significant (QOL) ( $r=0.207$ ,  $p=0.150$ ;  $r=0.036$ ,  $p=0.802$ ;  $r=0.034$ ,  $p=0.817$ ).

The findings of this study indicate that HML of patients with unilateral knee OA were lower than that of the control group. There was significant positive correlation between HML of patients with OA of knee and with the KOOS subscales of 'symptoms' and 'pain'.