4036067 SIPT/M : MAJOR: PHYSIOTHERAPY; M.Sc.(PHYSIOTHERAPY)
KEY WORDS : PROPRIOCEPTION/ ACTIVE REPRODUCTIVE ANGLE/ KNEE OSTEOARTHRITIS/ PEAK TORQUE

PEERAVUTH PISUTWIMOL: EFFECT OF FATIGUE ON KNEE PROPRIOCEPTION IN FEMALE SUBJECTS WITH AND WITHOUT SYMPTOMATIC KNEE OSTEOARTHRITIS. THESIS ADVISORS: ANANPAT IMPOOLSUP MD, ROONGTIWA VACHALATHITI Ph.D. (PHYSIOTHERAPY). 94 P. ISBN 974-665-017-3.

This study investigated the effect of muscle fatigue on knee proprioception in subjects with and without symptomatic knee osteoarthritis whose age, weight and height similar. Each group consisted of 15 subjects. Mean ages of with and without symptomatic knee osteoarthritis were 53.60±4.90 and 50±5.95 year respectively. The study was divided into 3 parts. The first part was to compare peak torque of knee flexor and extensor muscles at angular velocity of 180 degrees/second between female subjects with and without symptomatic knee osteoarthritis. The second part was to compare proprioception before fatiguing isokinetic contraction of quadriceps and hamstring muscles between subjects with and without symptomatic knee osteoarthritis. The third part was to compare knee proprioception before and after fatiguing isokinetic contractions of quadriceps and hamstring muscles in female subjects with and without symptomatic knee. All data were collected by using the Biodex System II.

In this study, the result demonstrated that peak torque in subjects with symptomatic knee osteoarthritis was significantly less than in subjects without symptomatic knee osteoarthritis. Comparison of mean absolute angular error between subjects with and without symptomatic knee osteoarthritis also showed statistically significant difference. Finally, subjects with symptomatic knee osteoarthritis had a statistically significant increment in mean absolute angular error after receiving fatigue program. However, there was no significant difference in mean absolute angular error in subjects without symptomatic knee osteoarthritis.

Finally, this study found a significant decrease in knee proprioception in subject with symptomatic knee osteoarthritis after they received fatigue program.. Therefore, clinical rehabilitation protocols should emphasize increasing muscular strength and endurance to increase fatigue-resistant to the muscle.