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Evaluation of knee pain and quadriceps muscle power among knee osteoarthritis patients followed by rehabilitation at CRP

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October, 2019

Abstract

Purpose: To evaluate the effectiveness of conventional physiotherapy for knee pain, quadriceps muscle power and functional limitation of knee osteoarthritis patients.

Objective: To evaluate the changes of knee pain and quadriceps muscle power and functional limitation among knee osteoarthritis patient followed by rehabilitation at CRP.

Methodology: A quantitative study with quasi-experimental design in one arm have been employed to accomplish the research objectives. The study had single group of patients treated by structured protocol in a specific time frame. 25 samples were selected with clinically diagnosed knee osteoarthritis from the outpatient's musculoskeletal department of CRP. A structural questionnaire was used for collecting data from the participants.

Results: The mean age of the participants was 51.64 years. The most vulnerable age group is 40-49 years. Out of 25 participants 15 (60%) were female and 10 (40%) were male. Housewives are more vulnerable for knee osteoarthritis then other occupations. After completing 12 sessions (4-weeks) of treatment, the mean difference of pain between VAS pre and VAS post is (4.10400) and p value is ($p < 0.05$), which is significant. Quadriceps muscle power according to MMT scale Wilcoxon test shows, negative rank = 0, Positive rank = 24 and Ties = 1 and p value is ($p < 0.05$). WOMAC pain (pre and post) pair 't' test shows, mean difference is (47.6), standard deviation is (11.56), t value is (20.59) and p value is ($p < 0.05$). WOMAC stiffness (pre and post) pair 't' test shows, mean difference is (43.5), standard deviation is (15.36), t value is (14.16) and p value is ($p < 0.05$). WOMAC functional limitation (pre and post) pair 't' test shows, mean difference is (34.01), standard deviation is (6.75), t value is (25.2) and p value is ($p < 0.05$). The finding shows, conventional physiotherapy has significance to reduce pain, improve muscle power and function.

Conclusion: The vulnerable age range to develop OA knee is over 40-49 and female are predominant. If the patients receive physiotherapy regularly and maintain therapeutic activities at their home then 80% symptoms will be subsided.

Key words: Knee Osteoarthritis, pain, quadriceps muscle power, functional limitation, Conventional physiotherapy.