

A comparative study between quadriceps combined with hip abductor strengthening versus quadriceps strengthening in treating osteoarthritis of knee: A short term pilot study

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Abstract

Background: Hip abductor strengthening is still controversial and hence not being routinely prescribed for treating patients with osteoarthritis knee. The current study aims at comparing quadriceps in combination with hip abductor strengthening can improve the function and reduce pain in KOA patients than quadriceps training alone.

Aims and Objective: To compare functional outcome and pain relief between patients receiving quadriceps and hip abductor strengthening with those undergoing quadriceps strengthening alone.

Materials and Method: 90 patients with symptomatic of osteoarthritis knee were randomly divided into two groups of 45 each. Cases in group 1 are managed with quadriceps strengthening exercises and group 2 with quadriceps combined with hip abductor strengthening exercises. Group 1 - straight leg raise and short arc quad (SAQ) exercises, group 2 in addition - lateral leg raise test and standing abduction test exercises were thought to the patient and were asked to continue for 6 weeks. Patients were evaluated at 6th, 8th, 10th week for VAS and WOMAC score.

Results: Mean VAS score was high in group 1, mean WOMAC score was high in group 2

Conclusion: Quadriceps combined with hip abductor strengthening is a simple exercise that aims in relieving pain and improving functional outcome of knee. Incorporation of this in treating knee osteoarthritis patient yields a good

Keywords: Osteoarthritis, Quadriceps, Hip abductor, Pain relief, Functional outcome

Introduction

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Results and Observations

I_{pr} (L 2), AS S
 90
 45
 C
 1
 2

I_{pr} (L 1),
 G A, 51.53 – 6.15 B,
 51.36 – 6.85 I_{pr} A, 60%
 40% I_{pr} B, 46.7% 53.3%
 I_{pr} A, 51.1% 48.9%
 I_{pr} B, 55.6% 44.4%
 A, K.L 2 44.4%, 3 40%
 4 15.6% B, K.L 2
 46.7%, 3 37.8% 4 15.6%

I_{pr} (L 2), AS S
 AS S
 4 6 8 10
 AS S
 Q H_i A +
 AS
 D 1 2 H_i A
 + Q AS
 Q I_{pr}
 AS S
 2 10 M AS
 Q
 (A) H_i A + Q
 (B).

I_{pr} (L 3), OMACS
 OMACS
 D 1 B
 OMACS
 S 6 10 M
 OMACS
 S Q (A)
 H_i A + Q (B).

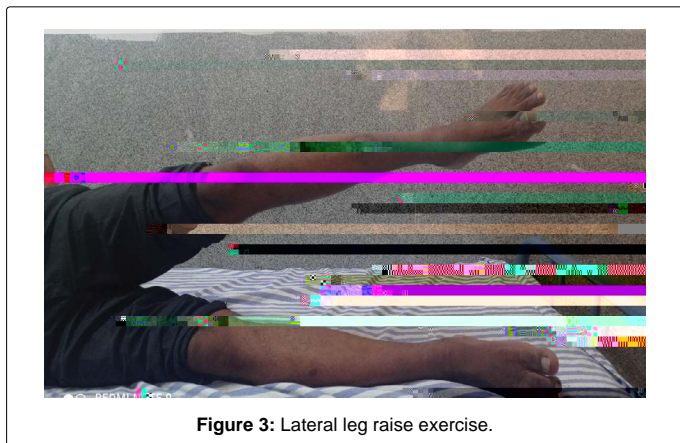


Figure 3: Lateral leg raise exercise.

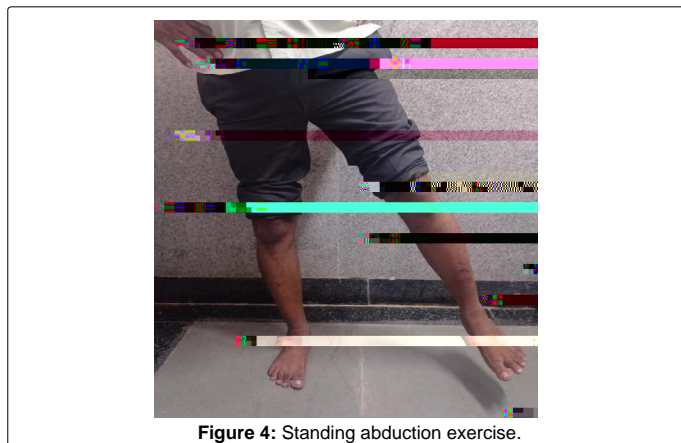


Figure 4: Standing abduction exercise.

| DEMOGRAPHICS | GROUP A | GROUP B | p value |
|-------------------------|--|---|---------|
| AGE in years | <50 years= 27 50-60 years= 14 >60 years= 4 | <50 years= 32 50-60 years= 7 >60 years= 6 | 0.206 |
| SEX | M=18 F=27 | M=21 F=24 | 0.205 |
| SIDE | RIGHT= 22 LEFT= 23 | RIGHT= 20 LEFT= 25 | 0.673 |
| Kellgren-Lawrence grade | KL 2= 20 KL 3= 18 KL 4= 7 | KL 2= 21 KL 3= 17 KL 4= 7 | 0.974 |

Table 1: Demographics comparison between two groups.

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

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20. Üi} *@Á ÚÈÁ Úæcc}æi\Á TÈÁ T [@æ]c^Á ÚÈÁ Öæ)^•@Á ÖÜÈÁ ÇGEFÎDÈÁ Ò ^&çç^)^••Á [-Á hip abductor strengthening on health status, strength, endurance and six minute walk test in participants with medial compartment symptomatic knee osteoarthritis. *Journal of back and musculoskeletal rehabilitation*; 29(1):65-75.
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