Effect of Three Different Physical Therapy Approaches on Function and Disability of the Knee Joint in Patients with Knee Osteoarthritis. Randomized Study.

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ABSTRACT

BACKGROUND: Knee osteoarthritis (OA) commonly causes increase in the patients' disability and reduce their function because it causes pain, limitation in knee range of motion and decrease in muscle power.

AIM: This study investigated the effect of three different physical therapy programs on knee range of motion , pain level, muscle strength and functional condition in patients with knee OA.

DESIGN: Randomized comparative study.

SETTING: Outpatient Rehabilitation clinic of Tongji Hospital (Wuhan, China).

POPULATION: Seventy-two patients of Knee OA (aged 40-70) enrolled and randomly allocated into three groups. Group A (n=24) received physical agents and isometric quadriceps exercises, group B (n=24) received same physical agents as group A in addition to open kinetic chain exercises and group C (n=24) received physical agents as group A in addition to closed kinetic chain exercises.

METHODS: knee range of motion (by electro goniometer), knee pain level (by VAS), quadriceps muscle strength (by isokinetic dynamometer) and functional condition (by WOMAC) were assessed before and after 5 weeks of treatment.

RESULTS: In between group analysis, there were significant differences ($P<0.05$) between the three groups for all outcome measure. In within-group analysis, group C was the only group that showed significant differences ($P<0.05$) in all the outcomes. Group A and B showed significant differences ($P<0.05$) in quadriceps muscle strength and knee pain and no significant differences ($P>0.05$) in knee ROM and functional condition.

CONCLUSIONS: After the study, our solid conclusion is that in physical therapy programs or protocols, closed kinematic chain exercise is very effective, it improves knee ROM, and help in reducing knee pain, muscle strength, function and disability for patients with knee osteoarthritis.

CLINICAL REHABILITATION IMPACT: Comparison between different physical therapy programs provides the rehabilitation team with the best treatment intervention that is more effective in treating the problems associated with knee osteoarthritis.

Key words: Disability, function, knee osteoarthritis, physical therapy.

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I was graduated from Faculty of physical therapy , Cairo University at 2009 , then got master of physical therapy from Cairo University at 2015. Now studying phd at , Huazhong University of Science and Technology at China and supposed to graduate at July 2020. I am Working as teaching assistant at college of physical therapy at Beni suef university in Egypt from 2013 until now, had 9 years experience in practice musculoskeletal physical therapy in Egypt and china. Now studying rehabilitation medicine and physical therapy in china.