Knee joint muscles activity during single leg drop landing from different heights among men with genu varum and men with normal knee

Mosavi SK (M.Sc)*1, Hashemi Taklimi M (M.Sc)2
Barati AH (Ph.D)3, Ghasemnian A (Ph.D)4

1M.Sc in Physical Education and Sports Science, Department of Sports Injury and Corrective Exercises, Faculty of Physical Education and Sport Sciences, Kharazmi University, Tehran, Iran. 2M.Sc in Physical Education and Sports Science, Member of Faculty, School of Physical Education and Sport Sciences, Kharazmi University, Tehran, Iran. 3Assistant Professor, Department of Physical Education and Sport Sciences, Rajaee University of Tehran, Tehran, Iran. 4Assistant Professor, Department of Physical Education and Sport Sciences, Faculty of Humanities, University of Zanjan, Zanjan, Iran.

Abstract

Background and Objective: Genuvarum is considered as one of the risk factors for the incidence of osteoarthritis. This study was done to compare the knee joint muscles activity during single leg drop landing from different heights among men with genu varum and men with normal knee.

Methods: This case – control study was done on 20 male students with genu varum deformity and 20 male students with normal knee. Genu varum deformity was measured by a kolis and goniometer. Muscle activity of lower limb was recorded with electromyography.

Results: There was significant difference in muscles activity of medialis gastrucnemius, peroneus longus, biceps femoris and gluteus medius in cases and controls (P<0.05), while no significant difference was observed in other muscles.

Conclusion: The changes in the knee normal structure might affect daily activities and possibly lead to injuries due to physical training.

Keywords: Muscles activity, Single leg drop landing, Genu varum

* Corresponding Author: Mosavi SK (M.Sc), E-mail: kazem_mosavi6486@yahoo.com

Received 5 Apr 2015 Revised 17 Aug 2015 Accepted 19 Aug 2015