

Correlation between Postural Stability and Functional Mobility in Patients with Knee Osteoarthritis

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Abstract

Background: Osteoarthritis (OA) is a degenerative joint disorder caused by progressive erosion of articular cartilage. The joint which is commonly affected is the knee joint. Patient with knee OA has increasing pain with decreasing postural stability, and may cause decrease in functional mobility of the body. The aim of this study was to analyze the correlation between stability and mobility in patients with knee OA.

Methods: A cross sectional study was performed on 43 patients from the Rheumatology Clinic of Dr. Hasan Sadikin General Hospital, Bandung, during September–October 2013. The 'Timed Up and Go' (TUG) test and stabilometric platform examination were performed to analyze the mobility and stability in subjects. The data were analyzed with Spearman's Correlation.

Results: Four subjects (9.30%) had normal functional mobility, 31 subjects (72.09%) had good mobility and need no help of others in their activities, and 8 subjects (18.60%) had problems and could not stand and walk without help. This study also found 39 subjects (90.69%) had high risk of fall. The p values were 0.005 for correlation between knee OA and lateral static postural stability, 0.138 with anteroposterior static stability, 0.067 with dynamic to position of top right stability, 0.344 with dynamic to position of top left stability, 0.384 with dynamic to position of bottom left stability and 0.357 with dynamic to position of bottom right stability.

Conclusions: There is a strong correlation between functional mobility with static postural stability, especially to the lateral position. [AMJ.2015;2(4):550–4]

Keywords: Functional mobility, knee osteoarthritis, postural stability

Introduction

Osteoarthritis (OA) is also called degenerative joint disorder that is caused by progressive erosion of articular cartilage.^{1,2} This disorder is the most common joint disorder in the world. Within western population, this disorder is one of the most common causes of pain, loss of normal function, and disability of adult. The symptoms that appear in this disorder may cause a mobility disruption which can cause limitation of daily activity. The joint commonly affected by OA is the knee joint.³ Knee OA has a high rate of incident in the world.⁴ The OA is a most common rheumatic disease in Indonesia. World Health Organization (WHO) data, shows OA cases in Indonesia is 8.1% from the total population.

The patient with knee OA has increasing pain and weakness that makes the patient also has decreasing postural stability of the

body, which may cause limitation of patient's activity and motivation.⁵ Postural stability is the body foundation to be able to stand and walk freely. The decrease of postural stability in elderly can make a contribution for increase fall risk when doing daily activity.⁶ Knee OA is commonly associated with the postural stability and functional mobility impairment however based on literature concerning this subject, there was not a study which showed the correlation between postural stability and functional mobility in patients of knee OA. The aim of this study was to analyze the correlation between postural stability and functional mobility in knee OA.

Methods

A cross sectional study was carried out to 43 knee OA patients who came to the Rheumatology Clinic of Dr. Hasan Sadikin

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