

2nd International Conference and Exhibition on **Physical Medicine & Rehabilitation**

July 14-16, 2014 DoubleTree by Hilton Baltimore-BWI Airport, USA

25(OH) Vitamin D is associated with functional capacity but not with muscle function and balance in osteoporotic postmenopausal women

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Osteoporosis is a disease characterized by reductions in bone mineral density and deterioration of bone tissue, with increased fragility and risk of fractures. It is one of the biggest public health problems, mainly due to population aging. It affects 55% of the population over the age of 50 years in the United States. Women with osteoporosis often present the disease associated with a lack of vitamin D, which further increases the risk of falls. A billion people worldwide have vitamin D deficiency, which is vital for the formation and remodelling of bone. Vitamin D is associated with muscular contractility, and helps to maintain muscle strength during ageing. Higher serum vitamin D concentrations have also been associated with greater muscle strength in healthy elderly individuals who have suffered falls and who have osteoporosis, but not in all studies. In post-menopausal women with osteoporosis, a lack of vitamin D lowers calcium fixation in the bones and calcium transport in the sarcoplasmic reticulum, which leads to decreased muscle strength, and may have consequences for functional capacity and postural balance, helping prevent falls and fractures. Vitamin D supplementation improves muscle strength and postural balance, but further studies are needed in the population of post-menopausal women with osteoporosis. The aim of this study is to assess whether different serum levels of vitamin D are associated with knee muscle strength, postural balance and functional mobility in women with post-menopausal osteoporosis.

Biography

Guilherme Carlos Brech has completed his PhD at the age of 33 years from University of Sao Paulo. He is a research at the Laboratory of Kinesiology in the Institute of Orthopedics and Traumatology, School of Medicine, University of São Paulo, São Paulo, Brazil. He has published more than 14 papers in reputed journals and has been serving as an editorial board member of repute.

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