The Fracture Triangle Risk Among Older adults Attending Agouza Physical Medicine and Rehabilitation Center (A Case Control Study)

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Abstract:

Fractures are viewed as a major catastrophe to most elderly population. Analysis of literature led to the development of a fracture prevention model, known as the Fracture Prevention Triangle. This triangle provides a conceptual model of the three intervention points: prevent the fall, minimize the force of the fall and reduce the fragility of bone. Thus the objective of the study is to explore the risk factors representing the fracture triangle. This study is a case control study, conducted at the Agouza Physical Medicine and Rehabilitation Center of the armed forces. The sample consisted of 250 subjects above the age of 50 years old. Cases (125) were having a history of lower limb fracture, while control subjects (125) did not have history of fracture ever. Results showed that 92.8% of the fracture cases had osteoporosis. More than 60% of them complained from chronic bone aches, kyphosis and maldigestion. About 40% administered a combination of more than three medications. These morbidities were significantly higher in the fracture case group. History of falling was recorded in 32.8% of the studied group. According to the site where the event took place, 74.39% in door (domestic) and out door events (25.61%) were recorded . Focus group discussions to discuss risk factors for falls and perception of the elderly to falls safety measures revealed that older adults perceive falls as among the serious health concerns, they perceived outdoor environment as playing a greater role than indoor environment. Concern about their limited resources and that Home safety devices and indoor home changes are not feasible. Stepwise logistic regression was applied in an attempt to identify factors that participate as risks of fracture: Kyphosis, history of falling, diabetes mellitus, maldigestion, antacid use, using a dental prosthesis and not working were included in the equation. This model is almost 80 %specific and 84.8% sensitive with an overall predictability of 82.1%.

Introduction

The effects of normal aging on the musculo-skeletal system and on mobility are pervasive. The impact of these changes on life style and activities of daily living, range from discomfort and decreased ability to perform physical activity, to severe, chronic pain and complete immobility. Aging alone does not need to limit mobility. While some signs and symptoms are related to normal changes of aging, others are possible indicators of dysfunctions that can be modified or prevented . Fractures are viewed as a major catastrophe to most elderly population. Older women are at greatest risk of fractures than older men by a ratio of 3:1. The major factors contributing to fractures in the elderly are loss of bone