

**VITAMIN D – ROLE IN PREVENTION OF FALL
IN AGING POPULATION**

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ABSTRACT

Falls are common occurrence among elderly which results in injuries, fractures and increase in morbidity and mortality. Approximately 30% of those aged 65 years and above in the community fall each year and it increases to 50% in those who are hospitalized. Prevention of fall and fall related injuries in the elderly population has become an important health issue as the number of elderly people has been increasing rapidly over the years. The objective is to perform a comprehensive review of randomised controlled trials to assess the efficacy of vitamin D with or without calcium on fall prevention in elderly people. A systematic search was done on all English articles in Medline (PubMed, Ovid) and Cochrane central register of controlled trials from year 2002 to 2012. Medical subject headings (Mesh) and keywords which were used are cholecalciferol, ergocalciferol, alfacalcidol, vitamin D, aged, elderly, falls and fall prevention. Only randomised controlled trials of older individuals (mean age 60 years or older) receiving a defined oral dose of supplemental vitamin D (vitamin D3 (cholecalciferol) or vitamin D2 (ergocalciferol)) and with sufficiently specified fall assessment were considered for inclusion. Eight randomised control trials (n=7835) met all the inclusion and exclusion criteria. Heterogeneity was observed among the trials chosen for the review. Hence subgroup descriptive analysis was done. In subgroup analysis, population of treatment group with cholecalciferol 800IU reduces number of fallers by approximately 28-34% and number of falls by approximately 35-50%. The subgroup analysis of treatment with ergocalciferol 1000IU or more does not have much improvement in the number of fallers. Conclusions made were that the efficacy of supplemental vitamin D for fall prevention is dependent on dose and type of vitamin D used among individuals aged 60 years and above. Reduction in number of fallers and number of falls by approximately 30% was observed in the group with supplement of cholecalciferol 800IU daily. In the group where ergocalciferol supplements were given, no reduction in number of fallers was seen, but total number of falls was reduced by 13%.