Pengaruh Suplemen Vitamin D (Alphacalcidol) terhadap Perubahan Derajat Nyeri dan Konsentrasi Serum Cartilage Oligomeric Matrix Protein (COMP) Akibat Osteoarthritis Lutut pada Pasien Lanjut Usia = Effect of Vitamin D Supplement (Alphacalcidol) on Changes in Pain Levels and Serum Concentration of Cartilage Oligomeric Matrix Protein (COMP) Due to Knee Osteoarthritis in Elderly Patients

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Abstrak

ABSTRAK
Saat ini terdapat perbaikan Angka Harapan Hidup (AHH) penduduk Indonesia dan penambahan populasi penduduk lanjut usia. Pada tahun 2017, AHH mencapai 71,06 tahun, dan jumlah lansia 23,4 juta orang (8,97% dari seluruh penduduk Indonesia). Hal ini berisiko meningkatkan kejadian penyakit degeneratif. Osteoartritis (OA) adalah penyakit yang sering dikaitkan dengan kondisi degeneratif dan mengakibatkan ketidakaktifan fisik. Pada Riskesdas 2013, penyakit Artritis berada di urutan kedua penyakit terbanyak diderita lansia dengan prevalensi 45% (55-64 tahun), 51,9% (65-74 tahun) dan 54,8% (usia >75 tahun). Pengobatan simtomatik dengan OAINS yang berkepanjangan dapat mengakibatkan efek samping yang fatal. Terdapat berbagai faktor risiko berkembangnya OA lutut, di antaranya konsentrasi serum Vitamin D (25(OH)D. Proporsi perempuan lansia dengan defisiensi 25(OH)D pada penelitian di Jakarta dan Bekasi mencapai 35,1%. Terdapat hubungan antara kadar Vitamin D (25(OH)D) yang rendah dengan nyeri lutut dan perubahan kartilago sendi lutut pada OA. Serum Cartilage Oligomeric Matrix Protein (COMP) merupakan produk degradasi penting dari kartilago sendi dan dapat menjadi marker diagnosis untuk OA lutut. Penelitian ini bertujuan mengetahui pengaruh pemberian suplemen Vitamin D (Alphacalcidol) selama 12 minggu terhadap derajat nyeri berdasarkan indikator WOMAC, dan kondisi obyektif kartilago sendi dengan perubahan marker serum COMP pada penderita OA lutut lansia. Disain penelitian uji klinis teracak, tersamar ganda, dan terkontrol plasebo. Subyek dengan OA lutut simtomatis direkruit secara consecutive sampling dan dilakukan anamnesis, diperiksa kondisi fisik, radiologi lutut, kadar serum Vitamin D (25(OH)D), serum Calcium dan marker COMP. Subyek dialokasikan secara acak (random allocation) pada kelompok perlakuan yang diberikan suplemen Vitamin D (Alphacalcidol) atau kelompok kontrol yang diberikan plasebo. Populasi sumber xviii Universitas Indonesia pada penelitian ini ialah pasien OA lutut lanjut usia yang berobat ke KPKM FKIK UIN Jakarta. Dari hasil pemeriksaan konsentrasi serum Vitamin D 25(OH)D sebelum dilakukan intervensi, 53,4% responden mengalami insufisiensi dan 12,3% responden mengalami defisiensi Vitamin D. Pemberian suplemen Vitamin D (Alphacalcidol) selama 12 minggu, mempengaruhi penurunan derajat nyeri berdasarkan indikator WOMAC pada penderita OA lutut lansia yang bermakna secara statistik dengan perbedaan perubahan skor pra dan pascaintervensi pada kelompok intervensi dibanding kontrol sebesar 2,174 (p=0,00). Pemberian suplemen Vitamin D (Alphacalcidol) selama 12 minggu, mempengaruhi penurunan konsentrasi serum COMP pada penderita OA lutut lansia, dengan perbedaan perubahan skor pra dan pascaintervensi pada kelompok intervensi dibandingkan kelompok kontrol sebesar 38,15 ng/ml namun tidak bermakna secara statistik (p=0,39)
<hr>ABSTRACT

At present there are improvements in the Life Expectancy (AHH) of the Indonesian population and the addition of the elderly population. In 2017, AHH reached 71.06 yo and the number of elderly people reached 23.4 million people (8.97% of the total population of Indonesia). This has the potential to increase degenerative diseases. Osteoarthritis (OA) is a disease that is often associated with degenerative conditions and physical inactivity. Riskesdas in 2013 stated that Arthritis was the second most common disease suffered by the elderly with a prevalence of 45% (55-64 yo), 51.9% (65-74 yo) and 54.8% (>75 yo). Symptomatic treatment with prolonged NSAIDs can cause fatal side effects. There are various risk factors for developing knee OA, including serum Vitamin D (25(OH)D) concentrations. The proportion of elderly women with 25(OH)D deficiency in studies in Jakarta and Bekasi reaches 35.1%. It has been found an association between low Vitamin D levels (25(OH)D) with knee pain in OA and changes in the knee joint cartilage. Cartilage Oligomeric Matrix Protein (COMP) is an important degradation product of joint cartilage and can be act as a diagnostic marker of knee OA. This study aims to determine the effect of Vitamin D supplementation (Alphacalcidol) for 12 weeks on the degree of pain based on WOMAC indicators, and the objective conditions of joint cartilage with changes in COMP serum markers in patients with knee OA in the elderly. The research design is a randomized, double-blind, and placebo-controlled clinical trials. Subjects with symptomatic knee OA will be recruited by consecutive sampling and continued with history taking, physical conditions examinatons, knee radiology, and blood test for serum vitamin D (25(OH)D), serum calcium and marker COMP. Subjects were then randomly allocated to the treatment group given Vitamin D supplements (Alphacalcidol) or the control group given a placebo. The source population in this study was elderly with knee OA patients xx Universitas Indonesia who went to Primary Health Care Clinic (KPKM) of FKIK UIN Jakarta. We found that before intervention was done, 53.4% of respondents had Vitamin D insufficiency and 12.3% of respondents had Vitamin D deficiency. The administration of Vitamin D supplements (Alphacalcidol) for 12 weeks, influenced the decrease in the degree of pain based on the WOMAC indicator in knee OA of elderly patients significantly, with differences in changes in pre and post intervention scores of 2.174 compare with control (p=0.00). The administration of Vitamin D supplements (Alphacalcidol) for 12 weeks, affected the decrease in the serum concentration of COMP in knee OA of elderly patients, with differences in changes in pre and post intervention scores in the intervention group compared to the control group of 38.15 ng/ml but not statistically significant (p=0.39).