

ABSTRAK

Hubungan Kadar 25-Hidroksi Vitamin D [25(OH)D] dengan Derajat *Frailty* pada Komunitas Usia Lanjut di Surabaya

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Latar belakang: Berbagai studi penelitian menyebutkan keterkaitan antara kadar 25(OH)D pada usia lanjut dengan kondisi *frailty*. Perlu dilakukan pemeriksaan kadar 25(OH)D pada komunitas usia lanjut. Data kadar 25(OH)D pada komunitas usia lanjut khususnya di Indonesia hingga saat ini masih sedikit. Di Surabaya, belum ada rutinitas untuk mendeteksi lebih dini kekurangan kadar 25(OH)D pada usia lanjut.

Tujuan: Menentukan perbandingan kadar 25-hidroksi vitamin D [25(OH)D] dengan berbagai derajat *frailty* pada komunitas usia lanjut

Metode: Penelitian ini merupakan penelitian *cross sectional* observasional analitik pada komunitas usia lanjut di Surabaya pada tahun 2019 serta memenuhi kriteria inklusi dan eksklusi. Dilakukan pemeriksaan kadar 25(OH)D serum dengan metode *Chemiluminescent Immuno Assay* (CMIA) menggunakan alat ADVIA yang sudah dikalibrasi dan diperiksa status *frailty* dengan skor CHS. Data kemudian dianalisis menggunakan uji *one way anova*.

Hasil: Dari total 75 subyek penelitian, dengan proporsi subyek *fit* 33,3% (n=25), *pre-frailty* 33,3% (n=25), dan *frailty* 33,3% (n=25) dengan rerata kadar 25(OH)D subyek *fit* 24,73 ng/mL, *pre-frailty* 20,99 ng/mL, dan *frailty* 15,18 ng/mL. Didapatkan perbedaan yang bermakna kadar 25(OH)D antara kelompok *fit* dengan *frailty* (p=0,000) dan antara kelompok *pre-frailty* dengan *frailty* (p=0,012).

Kesimpulan: Terdapat perbedaan antara kadar 25(OH)D pada berbagai derajat *frailty* yang bermakna pada kelompok *fit* dengan *frailty* dan kelompok *pre-frailty* dengan *frailty*. Kadar 25(OH)D yang rendah ditemukan pada kelompok *frailty* dibandingkan kelompok *fit*.

Kata kunci: Kadar 25(OH)D, vitamin D, *frailty*

ABSTRACT

Association of 25-Hydroxyvitamin D concentration with Frailty Degree in Elderly Communities in Surabaya

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Background: Various research studies mention the relationship between levels of 25(OH)D in the elderly with frailty. It is necessary to measure 25(OH)D levels in the elderly community. There are lack of 25(OH)D data in the elderly community especially in Indonesia. There is no routine examination for early detection of deficiency of 25(OH)D levels in elderly

Objective: Tocompare the ratio of 25-hydroxy vitamin D [25 (OH) D] levels with varying degrees of frailty in the elderly community

Method: This study was cross-sectional study in the elderly community in Surabaya in 2019 which fulfilled the inclusion and exclusion criteria. Serum levels of 25 (OH) D were examined using the Chemiluminescent Immuno Assay (CMIA) method using an ADVIA tool that had been calibrated and the frailty status measured by CHS scores. Data were analyzed using the One Way ANOVA test.

Results: Seventy-five subjects consist of fit subjects 33.3% (n = 25), pre-frailty subjects 33.3% (n = 25), and frailty subjects 33.3% (n = 25) with mean level of 25(OH) D on subject fit 24.73 ng/mL, pre-frailty 20.99 ng/mL, and frailty 15.18 ng/mL. There a significant difference in levels of 25 (OH) D between the fit and frailty groups (p = 0,000) and between the pre-frailty and frailty groups (p = 0.012).

Conclusion: There were differences in levels of 25(OH)D at various degrees of frailty which were significant in the fit group vs frailty and the pre-frailty group vs frailty. Low levels of 25(OH)D were found in the frailty group compared to the fit group.

Keywords: 25(OH)D concentration, vitamin D, frailty