

COMPARISON OF VITAMIN D BLOOD LEVEL IN MYOPIA AND NON MYOPIA PATIENTS

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Abstract

Introduction: Myopia is mainly affected by genetic and environmental factors. One of the environmental factors that influence the incidence of myopia is low vitamin D blood level.

Objective: To determine the ratio of vitamin D blood level in myopia and non-myopia student of 2nd year in Junior High School 8 Padang.

Method : Cross sectional Analytics. The samples consist of 86 students of Junior High School 8 Padang with 43 samples myopia and 43 samples non-myopia. All samples were examined for their VA using Snellen Charts and external examination. Non myopia students with VA of 5/5 and myopia students with VA worse than 5/5 were tested with autorefractometer ($SE \geq -0.50$ D) and the lens power of students wearing spectacles / contact lenses were noted ($SE \geq -0.50$ D). Blood level of vitamin D was measured using chemiluminescent immunoassay.

Results : The mean and SD of vitamin D blood level in myopia were 12.23 ± 4.82 ng/mL, while non myopia were 16.03 ± 4.90 ng/mL. The differences were statistically significant using statistical t test with $p < 0.001$. Based on the degree of myopia, 88.37% mild myopia, 11.63% moderate myopia and no severe myopia. There was no significant difference between blood levels of vitamin D with the degree of myopia ($p=0.90$). There's statistically significant difference in vitamin D blood level of myopia and non myopia based on statistical t test with $p < 0.001$.

Conclusion : Vitamin D blood level is lower in myopia than non-myopia students.

Key words: myopia, vitamin D blood level.

PERBANDINGAN KADAR VITAMIN D DARAH PENDERITA MIOPIA DAN NON MIOPIA

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Abstrak

Pendahuluan: Miopia dipengaruhi oleh banyak faktor terutama genetik dan lingkungan. Salah satu faktor lingkungan yang berpengaruh terhadap munculnya miopia adalah kadar vitamin D darah yang rendah.

Tujuan: Mengetahui perbandingan kadar vitamin D darah pelajar miopia dan non miopia kelas 2 SMPN 8 Padang.

Metode: *Analytic cross sectional*. Jumlah total sampel 86 pelajar kelas 2 SMP Negeri 8 Padang yang terdiri dari 43 pelajar miopia dan 43 pelajar non miopia. Semua sampel diperiksa visus dengan *Snellen Charts* dan pemeriksaan mata luar. Non miopia dengan visus 5/5 dan miopia dengan visus tidak 5/5 kemudian dilakukan pemeriksaan autorefraktometer (SE minimal -0,50 Dioptri) dan pelajar yang berkaca mata/ lensa kontak dicatat kekuatan lensanya (SE minimal -0,50 Dioptri). Kadar vitamin D darah diukur dengan menggunakan *chemiluminescent immunoassay*.

Hasil: Rerata dan standar deviasi vitamin D darah miopia $12,23 \pm 4,82$ ng/mL, sedangkan pada non miopia $16,03 \pm 4,90$ ng/mL dan terdapat perbedaan yang bermakna secara statistik berdasarkan uji statistik *t test* dengan nilai $p < 0,001$. Berdasarkan derajat miopia, miopia ringan 88,37%, miopia sedang 11,63% dan tidak ada miopia berat. Tidak terdapat perbedaan yang bermakna antara kadar vitamin D darah dengan derajat miopia ($p = 0,90$).

Kesimpulan: Kadar vitamin D darah miopia lebih rendah dari non miopia.

Key words: miopia, kadar vitamin D darah.