

# Korelasi Kadar 25(OH)D Serum dengan Keparahan Hand Eczema pada Tenaga Medis = Correlation of Serum 25(OH)D Levels with Severity of Hand Eczema among Healthcare Workers

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## Abstrak

Hand eczema (HE) adalah peradangan kulit tangan yang umum terjadi pada pekerjaan tertentu, termasuk di pelayanan kesehatan. Insidensi HE pada tenaga medis meningkat di era pandemi Covid-19 akibat peningkatan praktik hand hygiene. Vitamin D merupakan salah satu vitamin larut lemak yang memiliki berbagai pengaruh terhadap kulit, khususnya pada kondisi inflamasi. Vitamin D berperan dalam proses proliferasi dan diferensiasi epidermis serta berkaitan dengan imunitas kulit dan penyembuhan luka. Kadar rendah vitamin D diduga berkaitan dengan HE dan derajat keparahannya. Penelitian ini bertujuan menganalisis korelasi antara derajat keparahan HE dan kadar vitamin D yang diukur dengan 25(OH)D serum pada tenaga medis di RSUPN Dr. Cipto Mangunkusumo (RSCM) Jakarta. Penelitian ini merupakan studi deskriptif analitik dengan desain potong lintang. Populasi target penelitian adalah tenaga medis RSCM dengan HE yang dipilih menggunakan metode consecutive sampling berdasarkan kriteria penerimaan dan penolakan. Penilaian keparahan HE dilakukan dengan instrumen Hand Eczema Severity Index (HECSI) dan pengukuran kadar 25(OH)D serum dilakukan dengan pengambilan darah vena perifer. Analisis statistik yang sesuai dilakukan untuk membuktikan hipotesis penelitian. Nilai  $p < 0,05$  dianggap signifikan secara statistik. Di antara 44 sampel tenaga medis dengan HE, 29 orang mengalami HE ringan, 11 orang mengalami HE sedang, dan 4 orang mengalami HE berat. Rerata kadar 25(OH)D serum untuk seluruh SP adalah 17,50 ng/mL yang termasuk ke dalam kategori defisiensi vitamin D. Rerata kadar 25(OH)D serum pada SP dengan HE ringan adalah 17,85 ng/mL, pada HE sedang sebesar 16,45 ng/mL, dan pada HE berat sebesar 17,87 ng/mL. Tidak terdapat korelasi yang bermakna antara kadar 25(OH)D serum dengan derajat keparahan HE yang diukur dengan menggunakan HECSI ( $r = -0,056$ ;  $p = 0,359$ ). Pada hasil tambahan, tidak ditemukan korelasi bermakna antara skor HECSI dengan skor Dermatology Life Quality Index (DLQI) ( $r = 0,113$ ;  $p = 0,232$ ). Median kadar 25(OH)D serum pada SP dokter didapatkan lebih tinggi dibandingkan tenaga medis nondokter dengan nilai yang bermakna secara statistik (23,00 vs 14,00;  $p < 0,001$ ). Didapatkan pula rerata berat badan dan indeks massa tubuh (IMT) yang lebih tinggi pada kelompok SP dengan status vitamin D defisiensi dibandingkan nondefisiensi yang bermakna secara statistik (60,74 vs 55,00;  $p = 0,008$  dan 23,74 vs 21,83;  $p = 0,014$ ). Sebagai kesimpulan, tidak ditemukan korelasi yang bermakna antara kadar 25(OH)D serum dengan derajat keparahan HE pada tenaga medis.

.....Hand eczema (HE) is an inflammation of the skin of the hands that commonly occurs in certain occupations, including healthcare services. The incidence of HE in healthcare workers has increased in the era of the Covid-19 pandemic due to increased hand hygiene practices. Vitamin D is a fat-soluble vitamin that has various effects on the skin, especially in inflammatory conditions. Vitamin D plays a role in the process of proliferation and differentiation of the epidermis and is related to skin immunity and wound healing. Low levels of vitamin D are thought to be related to HE and its severity. This study aims to analyze the correlation between the severity of HE and vitamin D levels as measured by serum 25(OH)D in healthcare workers at RSUPN Dr. Cipto Mangunkusumo (RSCM) Jakarta. This is an analytic descriptive

study with a cross-sectional design. The target population of the study were RSCM healthcare workers with HE who were selected using the consecutive sampling method based on acceptance and rejection criteria. Assessment of the severity of HE was carried out using the Hand Eczema Severity Index (HECSI) instrument and measurement of serum 25(OH)D levels was done by drawing peripheral venous blood. Appropriate statistical analyzes were performed to prove the research hypotheses. A p-value of  $<0.05$  was considered statistically significant. Among the 44 samples of healthcare workers with HE, 29 people had mild HE, 11 people had moderate HE, and 4 people had severe HE. The mean serum 25(OH)D level for all subjects was 17.50 ng/mL which belonged in the vitamin D deficiency category. The mean serum 25(OH)D level in subjects with mild, moderate, and severe HE was 17.85 ng/mL, 16.45 ng/mL, and 17.87 ng/mL, respectively. There was no statistically significant correlation between serum 25(OH)D levels and HE severity measured using HECSI ( $r = -0.056$ ;  $p = 0.359$ ). In additional results, no significant correlation was found between the HECSI score and the Dermatology Life Quality Index (DLQI) score ( $r = 0.113$ ;  $p = 0.232$ ). The median level of serum 25(OH)D among physicians was found to be higher than non-physicians healthcare workers with a statistically significant value (23.00 vs 14.00;  $p <0.001$ ). The average body weight and body mass index (BMI) were also found to be higher in the subject group with vitamin D deficiency status compared to non-deficiency which was statistically significant (60.74 vs 55.00;  $p = 0.008$  and 23.74 vs 21.83;  $p = 0.014$ ). In conclusion, no statistically significant correlation was found between serum 25(OH)D levels and the severity of HE among healthcare workers as measured by HECSI.