

## Korelasi kadar vitamin c plasma dengan kadar malondialdehida (mda) plasma berdasarkan gradasi merokok

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### Abstrak

Tujuan : Mengetahui korelasi antara kadar vitamin C plasma dengan kadar MDA plasma berdasarkan gradasi merokok

Tempat : PT. NATIONAL GOBEL - Cimanggis - Jawa Barat.

Metodologi : Studi korelasi, pada 108 orang laki-laki berusia 20 - 55 tahun, perokok dan bukan perokok, yang terpilih secara simple random sampling. Data yang dikumpulkan meliputi data umum, kebiasaan merokok, konsumsi suplemen vitamin C, asupan makanan serta kadar vitamin C plasma dan MDA plasma.

Hasil : Kebiasaan merokok terdapat pada 45.4% subyek penelitian. Berdasarkan Indeks Brinkman, 37,1% termasuk perokok ringan, 8,3% perokok sedang dan tidak didapatkan perokok berat. Nilai median kadar vitamin C plasma 0.51 ( 0,04 - 1.36 ) mg/dl dan nilai median kadar MDA plasma 0,63 ( 0,22 - 4,74 ) nmol/ml. Didapatkan hubungan bermakna antara asupan energi, protein, serat, merokok dan konsumsi suplemen vitamin C dengan kadar vitamin C plasma serta hubungan bermakna antara konsumsi suplemen vitamin C dengan kadar MDA plasma. Didapatkan korelasi negatif antara kadar vitamin C plasma dengan kadar MDA plasma pada bukan perokok, perokok ringan dan perokok sedang namun korelasi tersebut tidak bermakna (  $r=0,014$ ;  $p=0,916$ ;  $r=-0,170$ ;  $p=0,295$ ;  $r=-0,317$ ; Korelasi negatif, kuat dan bermakna antara kadar vitamin C plasma dengan kadar MDA plasma didapatkan pada perokok yang mengkonsumsi suplemen vitamin C ( $r=-0,943$ ;  $p=0,005$  ).

Kesimpulan : Didapatkan korelasi negatif antara kadar vitamin C plasma dengan kadar MDA plasma berdasarkan gradasi merokok, namun korelasi tersebut tidak bermakna. Walaupun tidak bermakna, ada kecenderungan korelasi semakin menguat sesuai peningkatan gradasi merokok. Korelasi negatif, kuat dan bermakna antara kadar vitamin C plasma dengan kadar MDA plasma didapatkan pada perokok yang mengkonsumsi suplemen vitamin C.

.....Objective: To identify the correlation between plasma level of vitamin C and plasma level of MDA based on smoking gradation.

Place : PT. National Gabel - Cimanggis - Bogor.

Methods : The simple random sampling was used for correlation study of 108 subjects, smokers and non smokers, age between 20 - 55 years. Data collections including: general data, smoking habit, consumption of vitamin C supplement, food intake and plasma level of vitamin C and MDA.

Result : The smokers found a total of 45.4% of the subjects. Using Brinkman's index, the gradation of light smokers were 37.1%, moderate smokers were 82% and there was no heavy smoker. Median value of vitamin C level in plasma was 0.51(0.04 - 1.36) mg/dl and for MDA level in plasma was 0.63 (0.22 -- 4,74) nmol/ml. Significant relationship was found between energy intake, protein, fiber, smoking habit and consumption of vitamin C supplement with plasma level of vitamin C. Significant relationship was found between consumption of vitamin C supplement with plasma level of MDA. Negative correlation was found between plasma level of vitamin C with plasma level of MDA of non smokers, light smokers and moderate smokers but not significant (  $r = -0.014$ ,  $p = 0.15$ ;  $r = -0.170$ ,  $p = 0.295$ ;  $r = -0.317$ ,  $p = 0.406$ ). Smokers who consumed vitamin C supplement was found a negative, strong and significant correlation between plasma level of vitamin C and plasma level of MDA(  $r = -0.943$ ,  $p = 0.005$  ).

Conclusion : Negative correlation was found between plasma level of vitamin C and plasma level of MDA based on smoking gradation, but not significant. Although not significant, there was a tendency of stronger correlation if smoking gradation increase. Smokers who consumed vitamin C supplement was found a negative, strong and significant correlation between plasma level of vitamin C and plasma level of MDA.