

Asupan fruktosa dan korelasinya dengan ketebalan intima-media karotis pada karyawan hiperkolesterolemia RS Jantung dan Pembuluh Darah Harapan Kita Jakarta = Fructose intake and its correlation with carotid intima-media thickness in male employees with hypercholesterolemia in Harapan Kita National Cardiovascular Center Hospital Jakarta

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Abstrak

Penyakit kardiovaskular merupakan penyebab kematian nomor satu di dunia dengan prevalensi yang semakin meningkat dari tahun ke tahun. Aterosklerosis merupakan penyebab utama dari penyakit kardiovaskular, dapat dideteksi dini dengan pemeriksaan ultrasonografi ketebalan intima-media KIM karotis. Salah satu faktor risiko aterosklerosis yang dapat dimodifikasi adalah dislipidemia, dapat dipengaruhi dari asupan makanan antara lain diet tinggi fruktosa. Fruktosa selain dalam bentuk alami juga banyak digunakan secara komersial sebagai pemanis makanan/minuman. Penelitian dengan desain potong lintang ini bertujuan untuk mengetahui korelasi asupan fruktosa dengan KIM karotis pada laki-laki hiperkolesterolemia usia 19-49 tahun. Dari 47 subjek yang merupakan karyawan RS Jantung dan Pembuluh Darah Harapan Kita Jakarta, didapatkan nilai tengah usia subjek 41,33-45 tahun. Sebanyak 57,4 subjek memiliki kadar low density lipoprotein LDL tinggi dan sangat tinggi, 29,8 kadar high density lipoprotein HDL rendah dan 27,6 kadar trigliserida tinggi dan sangat tinggi. Sebagian besar subjek memiliki tekanan darah sistolik dan diastolik normal. Sebanyak 72,3 subjek tergolong obesitas dan 66,0 tergolong obesitas sentral. Sebagian besar subjek merupakan perokok ringan dan sebanyak 48,9 subjek beraktivitas ringan. Pada pemeriksaan KIM karotis didapatkan nilai tengah 1,08-1,4 mm dengan 63,8 subjek terdapat penebalan. Nilai tengah asupan energi total 1209-1645 kkal/hari, asupan karbohidrat, protein, lemak sebagian besar tergolong cukup, asupan serat 100 tergolong kurang dan rerata asupan fruktosa 31,97-15,48 gram/hari. Hasil analisis bivariat tidak terdapat korelasi antara asupan fruktosa dengan KIM karotis namun terdapat korelasi positif bermakna antara lingkaran pinggang dan asupan lemak dengan KIM karotis. Hasil analisis multivariat didapatkan bahwa asupan lemak mempunyai hubungan bermakna dengan KIM karotis.

Cardiovascular disease is the number one cause of death worldwide with an increasing prevalence annually. Atherosclerosis is the main cause of cardiovascular disease that is detectable early by ultrasound examination of the intima media thickness (IMT) of the carotid artery. One of the modifiable risk factors for developing atherosclerosis is dyslipidemia, that can be affected by food intake among them is high fructose diet. Apart from naturally occurring, fructose is largely used commercially as food beverage sweetener. This cross sectional study was conducted to investigate the correlation between fructose intake and IMT in male subjects with hypercholesterolemia aged 19-49 years old. Of 47 subjects who are Harapan Kita National Cardiovascular Center Hospital's employee, median age was 41.33-45 years old. In 57.4 subjects, low density lipoprotein (LDL) was found high and very high, 29.8 subjects have low high density lipoprotein (HDL) levels, and 27.6 subjects have high and very high triglycerides levels. Most subjects have normal systolic and diastolic blood pressure. Around 72.3 subjects were classified as obesity and 66.0 were classified as having central obesity. Majority of subjects were light smoker and 49.8 of them performed light activity. In carotid IMT examination, median of 1.08-1.4 mm was found with 63.8 subjects developed

thickness. Median total energy intake was 1209 1020 1645 Kcal day, mostly with adequate carbohydrate, protein, and fat, fiber intake was inadequate in 100 subjects, and mean fructose intake of 31,97 15,48 gram day. Bivariate analysis did not demonstrate any correlation between fructose intake and carotid IMT however there was positive correlation between waist circumference and fat intake with carotid IMT. Multivariate analysis showed that fat intake has a significant correlation with carotid IMT.