

## Korelasi antara asupan energi total asupan lemak dan lingkaran pinggang dengan kadar HbA1c pada obesitas = The correlation between the intake of total energy and fat waist circumference with HbA1c levels in obesity

Syaufi Zahrah, author

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### Abstrak

Prevalensi obesitas di Indonesia menunjukkan peningkatan yang bermakna dari tahun ke tahun, termasuk di dalamnya prevalensi obesitas sentral yang dapat diukur melalui lingkaran pinggang. Penelitian ini merupakan penelitian dengan desain potong lintang yang bertujuan untuk melihat korelasi antara asupan energi total, asupan lemak, dan lingkaran pinggang dengan kadar HbA1c pada obesitas. Penelitian dilakukan di kantor Balai Kota DKI Jakarta dari akhir bulan November sampai Desember 2013. Pengambilan subyek dilakukan dengan cara consecutive sampling, didapatkan 47 subyek yang memenuhi kriteria penelitian. Karakteristik subyek yang diambil adalah usia, jenis kelamin dan indeks massa tubuh (IMT). Variabel data yang diteliti adalah asupan energi total, asupan lemak, lingkaran pinggang, dan kadar HbA1c.

Hasil penelitian didapatkan subyek terbanyak berusia antara 36-50 tahun (93,6%), sebagian besar berjenis kelamin perempuan sebanyak 27 subyek (57,4%), dan sebanyak 35 subyek (74,5%) termasuk kategori obes I, karena sebagian besar subyek berada pada rentang usia 36 sampai 50 tahun, maka selanjutnya analisis data dan pembahasan dilakukan pada 44 subyek dengan rentang usia tersebut. Asupan energi total 32 subyek (72,7%) dibawah AKG (70% AKG). Median (min-maks) asupan energi total adalah sebesar 1225,8(766,0-4680) kkal. Sebagian besar subyek penelitian mengonsumsi lemak lebih dari persentase KET yang dianjurkan yaitu sebanyak 42 orang subyek (95,5%). Seluruh subyek laki-laki dan sebagian besar subyek perempuan (84%) memiliki LP lebih. Rerata kadar HbA1c pada subyek laki-laki adalah  $6,3 \pm 0,2\%$  dan perempuan  $6,3 \pm 0,3\%$ , dan hampir sebagian besar (68,2%) memiliki kadar HbA1c berisiko tinggi. Terdapat korelasi negatif tidak bermakna antara asupan energi total dengan kadar HbA1c pada subyek laki-laki ( $r = -0,15$ ,  $p = 0,536$ ) dan korelasi positif tidak bermakna pada subyek perempuan ( $r = 0,28$ ,  $p = 0,898$ ). Korelasi negatif tidak bermakna dijumpai antara asupan lemak dengan kadar HbA1c pada seluruh subyek ( $r = -0,06$ ,  $p = 0,687$ ). Korelasi positif tidak bermakna antara lingkaran pinggang dengan kadar HbA1c terdapat pada seluruh subyek ( $r = 0,18$ ,  $p = 0,236$ ).

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The prevalence of obesity in Indonesia is increasing and also the prevalence of central obesity which can be measured by waist circumference. The aim of this cross sectional study was to find the correlation between total energy intake, fat intake, and waist circumference with HbA1c levels in obese subject. Data collection was conducted during November to December 2013 in the institution of Balaikota DKI Jakarta. The subjects was obtained by consecutive sampling, and 47 subjects who meet study criteria were enrolled in this study. The data collection were characteristics of the subjects including age, gender and body mass index (BMI), as well as total energy intake, fat intake, waist circumference, and HbA1c levels.

The results showed the highest age between 36-50 years (93.6%), majority of the subjects were female (57.4%), and categorized as obese I (74.5%). Because most of the subjects were in the range of age 36 to 50 years, the data analysis and discussion conducted on 44 subjects. Most of the subject had total energy intake

under RDI requirements, i.e., 13 people (68.4 %) of male and 19 subjects (76%) of female subjects. Most of the subjects (42 subjects, 95.5%) had fat intake over recommended percentage of total energy requirement. All of the male and most of female subjects (84%) have waist circumference greater than the normal criteria. Mean of HbA1c levels were  $6.3 \pm 0.2\%$ , for male subjects and almost the same levels for female subjects, while 68.2% of the subjects were categorized as high risk. There were no significant negative correlation between total energy intake and HbA1c levels in male subjects ( $r = -0.15$ ,  $p = 0.536$ ) and no significant in female subjects ( $r = 0.28$ ,  $p = 0.898$ ). There were no significant negative correlation between fat intake and HbA1c levels in all subjects ( $r = -0.06$ ,  $p = 0.687$ ), while non significant positive correlation between waist circumference and HbA1c levels were found in all subjects ( $r = 0.18$ ,  $p = 0.236$ ).