

ABSTRACT

Background: Data of Basic Health Research 2007 showed high number of adults with low Body Mass Index (BMI), whereas another literature showed high number of young adults woman with low Bone Mass Density (BMD). Bone Mass Density has the biggest contribution to bone strength. Low BMI is associated with low achievement of peak bone mass and high loss of bone mass.

Objective: To study association between BMI and BMD in young female adults (25-35 years old).

Method: The study was analytic observational with cross sectional study design. Data obtained from a study on "Determinants of Risk Factors for Osteoporosis at three provinces in Indonesia" undertaken by Center for Nutrition and Food Research and Development 2007. The dependent variable was BMD; the independent variable was BMI; and the confounding variables were: acceptors of hormonal contraception, habit in physical exercise, calcium intake, ratio of Ca:P intake, supplement consumption, consumption of sources of phytoestrogen and fruit and vegetables.

Result:

Ca intake < 500 mg/day had risk 2.054 times for low BMD than adequate Ca intake. The association was statistically significant. Other variables like acceptors of hormonal contraception, less physical exercise, protein intake, Ca:P ratio intake, consuming supplement intake, poor source of phytoestrogen; inadequate consumption of fruit and vegetables statistically had no significant. BMI showed statistically no significant.

Conclusion: There was statistically no significant association between BMI and BMD. Factor that had risk for low BMD and statistically significant was Ca intake.

Keywords: osteoporosis, body mass index, bone mass density, bone density, young adult woman.

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INTISARI

Latar Belakang : Data Riskesdas 2007 menunjukkan tingginya usia dewasa dengan indeks massa tubuh (IMT) rendah, sedangkan literatur lain mendapatkan tingginya densitas massa tulang (DMT) rendah pada wanita dewasa muda. Densitas massa tulang memberikan sumbangan terbesar pada kekuatan tulang. Rendahnya IMT berhubungan dengan rendahnya pencapaian massa tulang puncak dan tingginya kehilangan massa tulang.

Tujuan : Mengkaji hubungan IMT dengan DMT pada wanita dewasa muda (25-35 tahun).

Metode : Penelitian ini merupakan studi observasional-analitik dengan rancangan *cross sectional study* yang menggunakan data sekunder. Data berasal dari penelitian 'Faktor Determinan Risiko Osteoporosis di Tiga Propinsi di Indonesia' yang dilakukan Puslitbang Gizi dan Makanan, 2007. Variabel terikat : DMT, variabel bebas : IMT, variabel perancu : kebiasaan berolahraga, penggunaan KB hormonal, asupan kalsium (Ca), asupan protein, rasio asupan Ca:P, konsumsi, suplemen, sumber fitoestrogen dan buah-sayur.

Hasil :

Asupan Ca < 500 mg/hari berisiko 2,054 kali mengalami DMT rendah dibandingkan asupan Ca yang cukup, hubungan ini bermakna secara statistik. Penggunaan KB hormonal, kebiasaan berolahraga, asupan protein, rasio asupan Ca:P, konsumsi suplemen, sumber fitoestrogen dan buah-sayur memberikan hubungan yang tidak bermakna secara statistik dengan DMT. Indeks massa tubuh (IMT) juga tidak memberikan hubungan yang bermakna secara statistik.

Kesimpulan : Hubungan IMT dan DMT tidak bermakna secara statistik. Faktor yang berisiko DMT rendah dan bermakna secara statistik adalah kurangnya asupan kalsium.

Kata Kunci : Osteoporosis, DMT, IMT, densitas tulang, wanita dewasa muda.