

# Korelasi antara asupan besi dan feritin serum dengan jumlah bifidobacterium usus pada Ibu hamil trimester ketiga di Jakarta Timur = Correlation between iron intake and serum ferritin with gut bifidobacterium third trimester of pregnancy in East Jakarta

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## Abstrak

Zat besi merupakan mikronutrien esensial yang diperlukan tubuh seperti pertumbuhan sel darah merah dan sel otak. Kebutuhan besi meningkat pada masa kehamilan. Komposisi mikrobiota dapat berubah selama tahap kehidupan yang dipengaruhi oleh berbagai faktor, misalnya besi. Penelitian ini merupakan penelitian dengan desain potong lintang yang bertujuan untuk mengetahui korelasi antara asupan besi dan kadar feritin serum dengan jumlah Bifidobacterium pada ibu hamil trimester ketiga. Penelitian ini dilakukan di seluruh puskesmas kecamatan di Jakarta Timur dari bulan Maret sampai April 2015. Pengambilan subjek dilakukan dengan cara konsekutif dan didapatkan 52 ibu hamil yang memenuhi kriteria penelitian. Data dikumpulkan dengan wawancara meliputi kuesioner data asupan besi heme dan non heme protein serta vitamin C dengan FFQ semikuantitatif. Pengukuran antropometri untuk menilai status asupan gizi, pemeriksaan laboratorium untuk mengetahui kadar feritin serum dan kadar CRP serta jumlah Bifidobacterium dalam tinja. Didapatkan rerata usia 29,159 tahun, nilai median asupan besi 66,7331441 mg/hari, kadar feritin serum 31,136961 g/L, dan jumlah Bifidobacterium usus 7,455195 log/g tinja. Tidak didapatkan korelasi yang bermakna asupan besi dengan jumlah Bifidobacterium usus ( $r = 0,202$ ,  $p = 0,152$ ), juga tidak didapatkan korelasi bermakna antara kadar feritin serum dengan jumlah Bifidobacterium usus ( $r = 0,116$ ,  $p = 0,411$ ).

Iron is an essential micronutrient which body needed such as for blood growth cell and brain cell. Iron's requirement increases in pregnancy. Microbiota composition can change in cycle of life which be affected by many factors, likely iron. The aim of this cross-sectional study was to find the correlation between iron intake and serum ferritin with Bifidobacterium third trimester of pregnancy. Data collection was conducted from March 2015 until April 2015 in all of sub-district of public health centre in east Jakarta. Subjects were obtained using consecutive sampling method. A total of 52 pregnancy subjects had met the study criteria. Data were collected through interviews including questionnaire iron intake heme and non heme protein and vitamin C used semiquantitative FFQ. Anthropometry measurements to assess the nutritional status and laboratory examination i.e. blood levels of serum ferritin and CRP and Bifidobacterium in feces. Mean age 29.159 years. Median of intake of iron was 66.7331441 mg/day, serum ferritin was 31.136961 g/L, and gut Bifidobacterium 7.455195 log/g feces. No significant correlation was found between iron intake and Bifidobacterium in feces ( $r = 0,202$ ,  $p = 0,152$ ) and negative correlations and no significant between serum ferritin and Bifidobacterium in feces ( $r = 0,116$ ,  $p = 0,411$ ).