

Dietary iron intake, serum ferritin and haemoglobin levels, and cognitive development scores of infants aged 6-8 months

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Abstrak

Latar belakang: Defisiensi besi selama masa kanak-kanak dapat menimbulkan pengaruh buruk pada fungsi kognitif dan perkembangan psikomotor. Penelitian ini bertujuan mengetahui kadar feritin serum dan hemoglobin dan hubungannya dengan skor perkembangan kognisi pada usia 6-8 bulan.

Metode: Rancangan penelitian potong lintang digunakan pada 76 bayi yang diperoleh dari beberapa Posyandu terpilih di kelurahan Kampung Melayu, kecamatan Jatinegara, Jakarta yang memenuhi kriteria penelitian. Data yang dikumpulkan meliputi usia, berat, panjang, lingkar kepala, asupan zat besi, feritin serum, haemoglobin dan skor perkembangan kognitif dengan menggunakan Capute Scales method (Cognitive Adaptive Test/ Clinical Linguistic Auditory Milestone Scales/ CAT-CLAMS).

Hasil: Dari 74 bayi usia 6-8 bulan yang menjadi subyek penelitian ini, 73% mempunyai asupan zat besi kurang dari AKG (7 mg/hari), 18,9% mempunyai kadar feritin serum kurang dari normal (20 µg/L), dan 56,7% mempunyai kadar hemoglobin kurang dari normal (11 mg/dL). Terkait dengan skor perkembangan kognitif, ditemukan skor CAT yang lebih rendah secara bermakna pada subyek dengan kadar hemoglobin <11 mg/dL (p = 0,026).

Kesimpulan: Sebagai upaya pencegahan dini terhadap gangguan perkembangan kognitif, disarankan agar sejak usia 6 bulan mulai memperhatikan asupan zat besi dari makanan pendamping ASI agar tidak terjadi penurunan kadar hemoglobin.

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Abstract

Background: Iron deficiency during infancy may lead to negative effect on cognitive function and psychomotor development. This study aimed to investigate serum ferritin, haemoglobin level and its relation to cognitive development score in infants aged 6-8 months.

Methods: This cross-sectional study was done on 76 infants recruited from several selected community health center in Kampung Melayu Village, Jatinegara Jakarta who had fulfilled the study criteria. Data collected consist of age, weight, height, head circumference, energy, protein and iron intake, serum ferritin levels, haemoglobin levels and cognitive development score using Capute Scales method (Cognitive Adaptive Test/ Clinical Linguistic Auditory Milestone Scales/ CAT-CLAMS).

Results: Among 74 infants aged 6-8 months, 73% had less dietary iron intake as compared to its RDA (7 mg/d), 18.9% were with serum ferritin less than normal value (20 µg/L), and 56.7% with haemoglobin levels less than normal value (11 mg/dL). In relation to cognitive development score, this study revealed that

the CAT score was significantly lower among subjects with hemoglobin value less than 11 mg/dL ($p = 0.026$).

Conclusion: Early prevention of impaired cognitive development is urgently needed by providing iron-rich complementary foods to infants since 6 months (mo) old to maintain the normal level of hemoglobin. (Med J Indones 2011; 20:46-9)