

Perubahan kadar hemoglobin dan feritin serum pada siswa wanita setelah menjalani pendidikan khusus selama 12 minggu di Jakarta Selatan = The changes of hemoglobin and serum ferritin in women students during basic training (12 Weeks) in a special education in Southern Jakarta

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Abstrak

**ABSTRAK**

Ruang lingkup dan cara penelitian

Tingginya prevalensi anemia defisiensi besi pada wanita usia reproduksi di Indonesia. Asupan zat besi melalui makanan dan aktifitas fisik/olahraga yang berat dapat merupakan salah satu faktor penyebab anemia defisiensi besi. Telah dilakukan penelitian quasi eksperimental pada 60 siswa wanita untuk melihat pengaruh latihan fisik yang teratur dan konsumsi makanan yang didapat setiap hari terhadap kadar hemoglobin dan feritin serum di suatu pendidikan khusus selama 12 minggu. Pada awal dan akhir penelitian, kepada subjek dilakukan pemeriksaan; kesehatan, antropometri, kadar hemoglobin dan feritin serum. Sedangkan asupan makanan dan kegiatan 24 jam dinilai selama masa penelitian berlangsung. Dengan metode 3 days record dan metode faktorial.

Hasil dan Kesimpulan

Pada awal dan akhir penelitian didapatkan kejadian defisiensi besi dengan atau tanpa anemia dan anemia bukan defisiensi besi yang cukup tinggi. Kualitas makanan yang diterima mempunyai imbang sumber energi yang sesuai dengan anjuran, dan kuantitas asupan zat gizi yang diteliti (lemak, protein, zat besi dan vitamin C) berada di atas nilai kebutuhan yang disesuaikan dengan kecukupan yang dianjurkan, kecuali asupan energi dan karbohidrat sedikit di bawah nilai kecukupan. Jenis aktifitas/kegiatan yang dilakukan termasuk kategori jenis aktifitas berat dengan keluaran energi dalam sehari sebesar 3496,88+134,21 Kal. Latihan fisik dan asupan makanan yang diterima selama penelitian ini berlangsung, dapat menurunkan berat badan dan indeks masa tubuh ( $p < 0,05$ ), tetapi meningkatkan kadar hemoglobin ( $p < 0,05$ ) dan feritin serum ( $p < 0,05$ ). Perubahan ini dipikirkan karena selain adanya efek konsumsi zat besi dari makanan yang diterima, jenis intensitas dan lama latihan fisik yang dilakukan, distribusi populasi subjek berdasarkan kadar hemoglobin dan feritin serum turut pula mempengaruhinya.

**ABSTRACT**

Scope and Method of Study:

The prevalence of iron deficiency anaemia in reproductive age women in Indonesia is high. Two factors involved on causing iron deficiency anaemia are food intake and hard physical training.

A quacy experimental study was done on 60 women to investigate the changes of hemoglobin and serum ferritin on women student who had regular meals and taking basic physical training during 12 weeks in special education. Physical, anthropometric examination, hemoglobin and serum ferritin concentration determination were done on each subject at the beginning and at the end of the basic special education. The

evaluation of food intake and 24 hours activities were done using three days record and factorial method during this study.

#### Result and Conclusions:

The incidence of iron deficiency at the beginning and at the end of study were quite high, both among the anaemic and the non anaemic group. The quality of food intake was well balanced and the quantity of each nutritional element under study (fat, protein, iron and vitamin C) were above the optimal requirement, except calorie and carbohydrate were slightly below the optimal requirement. The exercises done by the subjects were categorized as heavy exercise with energy expenditure of  $3496.88 \pm 134.21$  calories per day. Heavy exercise and food intake during the study managed, to lower the body weight and body mass index ( $p < 0.05$ ) and increased the hemoglobin and serum ferritin concentrations ( $p < 0.05$ ). The changes were thought due to iron consumption, intensity and duration of physical training, subject population distribution according to hemoglobin and serum ferritin concentrations.