Thesis Title The Study of Iron Deficiency Anemia and Consumption of High Iron Food in Elderly

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ABSTRACT

Nutritional anemia is one of the public health problems in Thailand. Iron deficiency anemia is an extremely common problem in the elderly. According to The Third National Nutrition survey of Thailand in 1986, 27.8% of the elderly men and 48.3% of women who live in the Northeast and the South were found to be anemic. As iron food consumption contributed the majority of the intake, this study was aimed to determine the relationship of dietary iron, enhancers and inhibitors using semi-quantitative food frequency method with parameter of iron status.

One hundred and thirty-six elderly subjects (59 men and 77 women) participated in this study. Hemoglobin, hematocrit, and serum ferritin were analyzed

to indicate iron deficiency anemia. Cut off point of anemia status was based on WHO criteria, i.e. hemoglobin (men < 13 gm/dl, women < 12 gm/dl), hematocrit (men <39%, women <36%). Prevalence rate of anemia was found to be 11.8% by hemoglobin, and 25.7% by hematocrit. The semi-quantitative food frequency questionnaire was developed to assess high iron food intake, high vitamin C intake and high phytate intake in the elderly. They were interviewed on usual intake consumption. The questionnaire comprises the high iron food items from 12 animal sources, 7 vegetable sources, high vitamin C from 8 items from fruits, and high phytate from 8 items from cereals and legumes.

Iron intake ranged from 1.6 to 48.9, with an average of 10.3 $\pm$ 8.9 mg/day (Mean $\pm$ SD) for men and 9.1 $\pm$ 6.1 mg/day (Mean $\pm$ SD) for women. The vitamin C intake by men and women were 104.1 $\pm$ 81.3 and 76.0 $\pm$ 65.5 mg/day (Mean $\pm$ SD), respectively. The average phytate intake was 404.1 $\pm$ 312.2 in men and 392.7 $\pm$ 338.3 mg/day in women.

Comparison of iron intake between the anemic and the normal showed no significant association by hemoglobin and serum ferritin but hematocrit criteria showed the reverse significant association ($P<0.05$) whereas the other parameters of iron status did not show any association with iron intake. This reverse association might be the result of greater concern with diet among anemic group than the other. Comparison of iron intake between high and low score of nutrition knowledge among anemic group showed the trend that the high knowledge score group would have higher iron intake.