

Dietary intake and iron status of female vegetarians in Victoria

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It is maintained that a well-balanced vegetarian diet is compatible with a healthy nutritional status. Furthermore, vegetarian dietary and lifestyle practices are associated with a lower incidence of some diseases such as obesity, coronary heart disease, gallstones, non-insulin-dependent diabetes and colon cancer (1). However, there is concern that some vegetarians and infrequent meat eaters, particularly females, may have an inadequate iron status due to the low or absent haem iron intake (2). Very few studies in the past have collected the 12-day diet records needed to obtain a reliable dietary assessment of the iron intakes in a large group of such women. The aim of the present study was to compare the iron intake and iron status of females who avoid red meat (or eat it < once per month) with those of age-matched female omnivores who eat meat regularly, using data from 12-day diet records and serum ferritin measurements.

Fifty female vegetarians and 24 age-matched female omnivorous controls aged 18-45 years participated in the study. The mean age of both groups was 25 years. The subjects completed a 12-day weighed dietary record and a questionnaire on diet and lifestyle and gave a fasting venous blood sample for the measurement of haemoglobin and serum ferritin

Analysis of the dietary records indicated that there was no significant difference between the mean iron intakes of vegetarians and omnivores—being 10.7 (SD 4.4) and 9.9 (SD 2.9) mg respectively. Only seven (3.5%) of the former group also took iron supplements. Vegetarians had significantly lower intakes of protein ($P < 0.01$) saturated fat ($P < 0.01$), and cholesterol ($P < 0.001$), and significantly higher intakes of dietary fibre ($P < 0.001$) and vitamin C ($P < 0.05$).

Mean serum ferritin concentration was significantly lower in vegetarians than in omnivores ($P = 0.025$). However, similar numbers of vegetarians (18%) and omnivores (12.5%) had serum ferritin values below 12 ng/ml, which is a value often used as the indication of low iron stores. Haemoglobin levels were not significantly different.

These findings suggest that menstrual iron loss probably has a more significant impact on iron status than does the dietary intake of haem iron. Therefore, it is advised that both vegetarian and omnivorous women consider their iron intake and follow dietary practices that enhance iron absorption.

1. Dwyer JT. Health aspects of vegetarian diets. *Am J Clin Nutr* 1988;48:712-38.
2. Helman AD, Darnton-Hill I. Vitamin and iron status in new vegetarians. *Am J Clin Nutr* 1987;45:785-9.