POTENTIAL BENEFITS AND CONCERNS FOR OTAGO VEGETARIANS

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Vegetarians have a lower incidence of a number of chronic diseases, such as coronary heart disease, diabetes, obesity , gallstones and arthritis (Dwyer 1988). However, there is concern that some people eating a vegetarian diet may not obtain an adequate intake of some nutrients, particularly iron and vitamin B_{12}. In New Zealand, the recommended daily intake (RDI) for iron follows the Australian Recommendations and is 12-15 mg for adolescents and menstruating women, and 7 mg for men and post-menopausal women (Truswell 1990). Recent studies indicate that median intake of New Zealand women is below this (Horwath et al. 1992). Individuals on a diet with poor iron bioavailability, or women with high menstrual losses might be particularly at risk of developing iron deficiency.

The nutritional intake of 50 adult vegetarians (five vegans) and 50 age-sex matched omnivorous controls was assessed using twelve day diet records. Protein, fat, saturated fat and vitamin D intake were significantly lower in the vegetarians, particularly in the vegans. Dietary fibre was higher in the vegetarians, and intake of calcium and zinc was similar, although vegans had a lower calcium intake. Mean (SD) iron intake in the vegetarians and vegans of 16.8 (4.8) mg/day was significantly greater than that of the omnivores - 14.6 (4.3) mg/day ($P<0.02$). All the iron consumed by the vegetarians was non-haem; for the omnivores 10% was haem iron.

Serum ferritin concentrations were significantly lower in male vegetarians than omnivores; mean (SD) - 36.6 (36.0) and 105.4 (78.7) ng/ml respectively, $P<0.01$ and significantly more had values below 12 ng/ml ($P<0.001$), despite having iron intakes well above the Recommended Nutrient Intake (RNI). Female vegetarians also had lower ferritin concentrations; mean (SD) 13.6 (7.5) compared to 33.6 (54.3) ng/ml, $P<0.01$, and medians of 12.3 and 15.5 ng/ml respectively, but similar numbers of women had values below 12 ng/ml (42% and 39%) regardless of whether they were vegetarians or not.

Vitamin B_{12} intake appeared significantly lower in the vegetarians, and all the vegans had intakes below the RNI. Thirty-five percent of the long-term vegetarians and vegans had serum vitamin B_{12} concentrations below the reference range.

Thus, although the vegetarians had diets nearer to the recommended diet with a lower fat and salt content and more fibre, a significant number need advice to improve their haematological status, as do some omnivores. Recommended intakes of iron may also need to be higher for vegetarians, particularly men.

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