Acid-base balance in vegetarians and non-vegetarians.

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Introduction and aims: Vegetarian diets are often considered as healthier compared to omnivorous diets. Several studies suggest that not only the diet but equally lifestyle related factors may cause the often cited better health status of vegetarians compared to non-vegetarians (Alewaeters et al. , 2005). When properly matched for sex, age, BMI and physical activity level, it appeared that the nutritional intake of vegetarians was much closer to the recommendations for a healthy nutrition compared to the non-vegetarians (Deriemaeker et al., 2006).

The latter finding gave rise to more detailed analyses of some "health related" components of the daily nutritional intake of matched groups of vegetarians and non-vegetarians from our database.

It was the aim of the present study to estimate the acid-base balance in the food intake of vegetarians and non-vegetarians. It also was our aim to evaluate if additional input concerning specific food items on the existing PRAL list was necessary for the comparison of the two dietary patterns.

Methods: From our data base (300 vegetarians en 400 non-vegetarians) we selected 30 vegetarians between the 18 and 24 years of age. They were matched according to sex, age and BMI with 30 non-vegetarians. Using 3-days food records we estimated the acid-base status of the nutritional intake using the PRAL method as proposed by Remer et al (2003). Since we were working with a specific population, consuming several food items not listed in the standard PRAL table, we used additional input on acid and base balance based on the protein, phosphorus, potassium, magnesium and calcium content of the food intake derived from the Belgian Nutrient Composition Table (NUBEL). Intakes were compared using the unpaired t-test. The significance level was set at 0.05.

Results: Total PRAL values as calculated with the standard table delivered a value of -16 ± 43 mEq/d for the vegetarians compared to 30 ± 43 mEq/d for the non-vegetarians ($p < 0,001$). Adjusted PRAL calculation was respectively -33 ± 59 mEq/d for the vegetarians and 38 ± 53 mEq/d for the non-vegetarians ($p < 0.001$).

Discussion and conclusions: Our results corroborate the findings reported by Remer (2001) and indicate that vegetarian food intake brings about more alkaline outcomes compared to non-vegetarian diets. The use of the standard PRAL table was sufficient for discrimination between the two diets.

References:

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