

equation. For men, a stepwise backward logistic regression including age, revealed a strong negative relationship between age and MMSE (odd ratio (OR) = 0.18;  $p < 0.001$ ), and age and AWOH (OR = 0.32;  $p < 0.01$ ). This last parameter was negatively linked to the BMI (OR = 0.36;  $p < 0.05$ ) and positively to the BMC (OR = 4.77;  $p < 0.01$ ). For women, the same kind of relationship was found between age and MMSE (OR = 0.21;  $p < 0.001$ ), and age and AWOH (OR = 0.14;  $p < 0.001$ ). BMI was positively related to MMSE (OR = 2.43;  $p < 0.05$ ) and AWOH (OR = 2.94;  $p < 0.05$ ). No link between the BMC and the functional or cognitive variables could be pointed out.

In conclusion, aging is the most powerful and the most constant parameter that explains the cognitive and functional impairments in free-living elderly people. An adequate level of fat-free mass contributes to the preservation of the physical capacities of men but not women. In both sexes, fat-free mass has no effect upon cognitive functioning. The physical and cognitive profiles are better in overweight women.

#### **A family approach to risk factors for nutritionally linked diseases: the 'Fleurbaix Laventie Ville Santé' (FLVS).**

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An epidemiological study aiming to locate the risk factors of nutritionally linked diseases over 3 generations is taking place in Fleurbaix and Laventie, 2 towns in the Pas-de-Calais area of France. The families are contacted through the list of children attending school. They complete a family tree enabling the different members to be identified. The clinical parameters recorded are weight, height, 4 skin folds, brachial cir-

cumference, waist circumference, hip circumference, blood pressure, pubertal development and vascular examination. The triglycerides, total cholesterol and glycemia levels are analysed by a capillary technique with the aid of Reflotron. A dietary survey is carried out (a record of the food consumed over 3 d for adults and a record for 1 d for children, in conjunction with a questionnaire of weekly frequency of consumption).

The participation rates in the survey were as follows: 95% consented to participate in the study; 85.2% to the completion of family trees; 83% to participation in the dietary survey. The first results concerned 362 boys aged  $8.2 \pm 1.8$  years and 339 girls aged  $8.1 \pm 1.8$  years. The waist to hip ratio (WHR) was significantly lower in girls than in boys ( $0.83 \pm 0.05$  vs  $0.86 \pm 0.04$ ,  $p = 0.0001$ ). This difference was evident from the age of 5 years. The proportion of triglyceridemia exceeding 0.70 g/L (Refotron's sensitivity threshold) was significantly higher in girls than in boys (56 vs 47%,  $p = 0.02$ ). Glycemia, total cholesterol and blood pressure were not different. There was no correlation between the WHR and the blood pressure, glycemia and triglyceridemia levels. Glycemia was nevertheless significantly higher in children with triglycerides above 0.90 g/L (75th percentile) after adjustment for age or BMI (average adjusted 0.87 vs 0.91 g/L,  $p = 0.02$ ). The preliminary data from the FLVS study revealed that the WHR in the prepubescent child does not have the same significance as in the adult. The relationship between glycemia and triglycerides could be the first to appear. The family context and the nutritional environment will allow a better understanding of the significance of this relationship.

**Effects of a protein-restricted diet upon hepatic production of glucose in chronic renal failure.** V Blanchetier, V Rigalleau, C Combe, M Aparicio, H Gin