

ACTA UNIVERSITATIS UPSALIENSIS
Comprehensive Summaries of Uppsala Dissertations
from the Faculty of Medicine 153

Distributor: Almqvist & Wiksell International, Stockholm, Sweden

DIETARY TREATMENT OF TYPE 2 DIABETES MELLITUS
with special reference to the importance of dietary fibre
by
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Akademisk avhandling som för avläggande av doktorsexamen i medicinsk vetenskap vid Uppsala universitet kommer att offentligt försvaras i Hörsalen, Kungsgårdets sjukhus, S:t Johannesgatan 28, Uppsala, fredagen den 20 maj 1988 kl 9.15.

ABSTRACT

Karlström, B. 1988. Dietary treatment of type 2 diabetes mellitus - with special reference to the importance of dietary fibre. Acta Universitatis Upsaliensis. Comprehensive Summaries of Uppsala Dissertations from the Faculty of Medicine 153, 50 pp. Uppsala, ISBN 91-554-2200-4.

The main purpose of this work was to investigate dietary effects, especially effects of dietary fibre, on the metabolic control in type 2 diabetes mellitus patients. When the content of dietary fibre (cereal fibre, leguminous seeds or mixed fibres) was increased in three test meals, the lowest blood glucose responses, compared with those to a control meal with low fibre, were noted after meals containing leguminous seeds and mixed fibres. The serum insulin concentrations were reduced after all three test meals. Addition of cereal fibre to a diet in poorly controlled patients with type 2 diabetes on a metabolic ward reduced the fasting blood glucose and urinary glucose excretion, while the serum insulin concentration was unchanged. This may indicate improved peripheral insulin sensitivity. A diet containing leguminous seeds decreased postprandial blood glucose, possibly as a result of slower intestinal absorption of glucose.

When the calculated dietary fibre contents in different diabetic diets were compared with those obtained by chemical analyses, certain discrepancies were found. This could have been due to biological variations of the raw food items and/or to variations in the analytical methods used for obtaining the dietary fibre values in a nutrient data base.

Food habits of patients with type 2 diabetes were investigated before and after a 1-year intervention study. The patients reported average intakes of nutrients that were not too different from those recommended. During the first half of the study, which included four visits to a dietitian, the metabolic control improved significantly. Six months later, however, only the mean body weight and serum triglycerides remained reduced. Repeated visits to the dietitian, also after the first six months, may be needed to encourage and maintain diet changes in these patients.

This study has provided further evidence that dietary treatment, especially with dietary fibre, has beneficial effects on the metabolic control in patients with type 2 diabetes mellitus.

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