

TOP Journal Club

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Dietary habits in type II diabetes mellitus: how is adherence to dietary recommendations?

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Objective:To clarify adherence of type II diabetic patients to dietary recommendations.**Subjects and methods:**The dietary habits of a group of 540 patients, with type II diabetes (male 322/female 218, mean age 61 \pm 5 years, body mass index (BMI) 29.7 \pm 5.2 kg/m²; mean \pm s.d.) referring to six Italian diabetes centres were evaluated by means of a 3-day diet record (2 workdays, 1 holiday). Diet records were analysed according to Italian food composition tables and compared with the dietary recommendations of the Diabetes and Nutrition Study Group of the European Association for the study of Diabetes.**Results:**Calorie intake was 1725 \pm 497 kcal (1800 for men, 1610 for women). Mean intake for each nutrient was close to the recommended amount, except for fibre (12/1000 vs 20 g/1000 kcal). Calculating the percentage of patients who complied with each recommendation, the intakes of saturated fat and fibre least reflected the dietary target: in 43% of patients saturated fat was >10% of total calories, in only 6% was fibre intake \geq 20 g/1000 kcal (considered ideal), and in 25% it was \geq 15 g/1000 kcal (acceptable).**Conclusions:**These results indicate that compliance to dietary recommendations is not completely satisfactory, even in Italy. Calorie intake is a bit elevated, given the high BMI of our diabetic population. As to dietary composition, there are two crucial issues: the high intake of saturated fat and - most importantly - the low intake of fibre. All strategies aiming to a proper implementation of guidelines should take these results into due account.

Components of the mediterranean-type food pattern and serum inflammatory markers among patients at high risk for cardiovascular disease.

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Objective:To evaluate associations between components of the Mediterranean diet and circulating markers of inflammation in a large cohort of asymptomatic subjects at high risk for cardiovascular disease.**Subjects/Methods:**A total of 339 men and 433 women aged between 55 and 80 years at high cardiovascular risk because of presence of diabetes or at least three classical cardiovascular risk factors, food consumption was determined by a semi-quantitative food frequency questionnaire. Serum concentrations of high-sensitivity C-reactive protein (CRP) were measured by immunonephelometry and those of interleukin-6 (IL-6), intracellular adhesion molecule-1 (ICAM-1) and vascular cell adhesion molecule-1 (VCAM-1) by enzyme-linked immunosorbent assay.**Results:**After adjusting for age, gender, body mass index, diabetes, smoking, use of statins, non-steroidal antiinflammatory drugs and aspirin, a higher consumption of fruits and cereals was associated with lower concentrations of IL-6 (P for trend 0.005;both). Subjects with the highest consumption of nuts and virgin olive oil showed the lowest concentrations of VCAM-1, ICAM-1, IL-6 and CRP; albeit only for ICAM-1 was this difference statistically significant in the case of nuts (for trend 0.003) and for VCAM-1 in the case of virgin olive oil (P for trend 0.02). Participants with higher adherence to the Mediterranean-type diet did not show significantly lower concentrations of inflammatory markers (P<0.1 for VCAM-1 and ICAM-1).**Conclusions:**The consumption of some typical Mediterranean foods (fruits, cereals, virgin olive oil and nuts) was associated with lower serum concentrations of inflammatory markers especially those related to endothelial function, in subjects with high cardiovascular risk living in a Mediterranean country.

Is it now time to promote mixed enteral and parenteral nutrition for the critically ill patient?

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BACKGROUND: Intensive care outcome measured by morbidity and mortality is altered in the severely malnourished ICU patient, and nutritional support of the critically ill is accepted as a standard of care. Current recommendations suggest starting enteral feeding as soon as possible whenever the gastrointestinal tract is functioning. The disadvantage of enteral support is that inadequate energy and protein intake can occur. The present commentary focuses on some recent findings regarding the nutritional support of critically ill patients and proposes to promote mixed nutrition support by enteral nutrition (EN), and by parenteral nutrition (PN) whenever EN is insufficient. **RECENT FINDINGS:** An increasing nutrition deficit during a long ICU stay is associated with increased morbidity (increased infection rate or impaired wound healing). Evidence shows that EN can result in underfeeding and that nutrition goals are reached only after 5-7 days. Contrary to former beliefs, recent meta-analyses of studies in the ICU showed that PN is not related to excess mortality but may even be associated with improved survival. **CONCLUSIONS:** Optimising the increased substrate requirement for the critically ill by initiating timely nutrition support and ensuring tight glycaemic control with insulin is now considered central for improved intensive care outcomes. Supplemental PN combined with EN could be an effective alternative to achieve 100% of energy and protein targets at day 4, when EN alone fails to achieve goals greater than 60% by day 3. Whether such combined nutrition support provides additional benefit on overall outcome has to be ascertained in further studies.

Is there evidence that the gut contributes to mucosal immunity in humans?

[JPEN J Parenter Enteral Nutr.](#) 2007 May-Jun;31(3):246-58.

BACKGROUND: Our understanding of the common mucosal immune system derives from animal studies. Antigen-sensitized lymphocytes in the gut-associated lymphoid tissue (GALT) migrate via the blood to mucosal tissues to generate the mucosal-associated lymphoid tissue (MALT). In these sites, B cells differentiate into plasma cells and produce antigen-specific secretory IgA, the principal specific immune antiviral and antibacterial defense of moist mucosal surfaces. Responses to oral intake seem necessary to actively maintain this system in health. Experimentally, lack of enteral stimulation with parenteral feeding alters GALT and MALT size and function. These alterations disturb intestinal and extraintestinal mucosal immunity. **METHODS:** This review is an overview of current and classical studies demonstrating the human mucosal immune system and interactions with nutrition. **RESULTS:** Human evidence of the mucosal immune system exists, although most data are indirect. Gut stimulation after oral intake induces a generalized immune response in the human MALT through a mucosal-immune network. Examples include neonatal development of GALT influenced by enteral feeding, the presence of antigen-specific IgA and antigen-specific IgA-secreting plasma cells in distant mucosal effector sites such as the breast after gut luminal antigen exposure, and isolation of IgA-producing cells from circulating blood. **CONCLUSIONS:** It is unlikely that clinical studies will ever completely define the effect of route of feeding in all patient populations. This may be possible, however, if investigators understand, define and characterize nutrition-dependent immunologic mechanisms, allowing clinicians to examine clinical responses to nutrition in specific patient populations. This might allow generation of new approaches to protect mucosal immunity.

A short-term long-chain triglycerides infusion has no influence on immune function of adult patients undergoing gastrointestinal surgery.

[JPEN J Parenter Enteral Nutr.](#) 2007 May-Jun;31(3):167-72

The regimens of LCT administration may have diverse effects on human immune function in different patient populations. However, LCT emulsion at an appropriate dose and infusion speed does not alter human immune function of adult patients undergoing moderate gastrointestinal surgery.

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