Mònica Bulló, PhD

Mònica Bulló obtained a degree in Biology from the University of Barcelona (UB) and a Ph.D. by the Rovira i Virgili University with the award of Honours Thesis Ph.D. She occupied research positions, first in the Municipal Medical Research Institute (IMIM) in Barcelona, and in the Biomedical Research Center at the Hospital Sant Joan de Reus. Until now she has occupied various teaching and research positions at the University Rovira i Virgili (URV). Since 2005, she has been a Lecturer Professor in the Department of Biochemistry and Biotechnology-URV (Human Nutrition Unit).

Her main lines of research include: 1) Mechanisms involved in pathophysiology of obesity, 2) Expression of adipokines and their relationship to metabolism, obesity and metabolic syndrome, 3) Effect of Mediterranean diet on cardiovascular risk factors, diabetes prevention and bone metabolism, 4) Effect nutrients on body weight, glucose tolerance and lipid metabolism, 5) Effect of nuts on inflammatory and oxidative parameters, 6) Effect of glycemic index and glycemic load on body weight, inflammation and endothelial function, 7) Satiety control through food structures made by novel processing; 8)Effect of pistachio intake on insulin resistance and T2D; 9) Dietary modulation of gut microbiota and its implication on health. Throughout her scientific career as research staff she has participated in the design and conduction of various research projects, being principal investigator on several national and international projects. In 2005 she obtained a scholarship in the program "State of Research outside Catalonia (2004BE 00018) "of the Generalitat de Catalunya which allowed her a stay of 7 months and starting a line of collaborative research in the Neuroendocrine & Obesity Biology Unit (Professor P. Trayhurn - University of Liverpool, UK). Mònica Bulló has published more than 110 original papers in national and international journals with a cumulative impact factor, according to the SCI, greater than 480, with more than 95 publications in the top quartile of their specific area.
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Tree nuts as part of a Mediterranean diet in diabetes

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Background. The role of nuts on lipid profile and cardiovascular disease is well-recognized, however their potential role on glucose and insulin metabolism and the risk of type 2 diabetes (T2D) is less conclusive. **Description**. In the PREDIMED study, we analyzed the effect of a Mediterranean Diet supplemented with nuts in the prevention of T2D. In a randomized crossover clinical trial on pre-diabetic subjects, we analyzed the effect of pistachio intake on glucose and insulin metabolism, both at peripheral and cellular levels. **Outcomes**. A significant lower risk to develop T2D was observed in subjects following a Mediterranean Diet supplemented with nuts compared to a low-fat diet. Additionally, a significant improvement in fasting glucose and insulin circulating levels, and also an amelioration of other biochemical markers related with glucose metabolism and inflammation, was observed after pistachio consumption. **Conclusions**. Nut consumption in a context of a healthy diet, is emerging as a useful nutritional strategy for the prevention of T2D.

Learning objectives:

1. Cross-sectional and prospective studies showed controversial results according to the relation of nuts with insulin resistance or type 2 diabetes
2. The PREDIMED trial provided evidence that nut consumption can be a nutritional strategy for diabetes prevention.
3. The EPIRDEM trial showed beneficial effects of pistachio consumption on insulin and glucose metabolism in pre-diabetic subjects, both at peripheral and cellular levels.