Furio Brighenti, DrPH

Furio Brighenti, 58, is Full Professor and Chair of Human Nutrition at the Department of Food Science and currently serves as Vice-Rector for Research of the University of Parma, Italy. He's got a MSc in Food Sciences and a DrPH in Public Health Nutrition at the university of Milan.

Prof. Brighenti was Dean of the University Degree in Gastronomic Sciences of the University of Parma (2009-2012); Vice-president of the Italian Nutrition Society (2000-2003) and, since 2009, the current President of the same society; Member of the Expert Commission "Food and School" of the Italian Ministry of Education and Research (2009-2011); Head of the Area of Human Nutrition at the Department of Public Health, University of Parma (2004-2012) and current Head of the Human and Public Health Nutrition Area of the Department of Food Science; Advisor of the Antidiabetic Food Centre of the University of Lund (SWE) (2010-to date); Associate editor of the journal Nutrition, Metabolism and Cardiovascular Disease (2009-2012); Editor-in-Chief of the International Journal of Food Sciences & Nutrition (2012-to date); scientific Co-ordinator of the expert panel for the revision of the Italian DRVs (2010-to date); Member of the Scientific advisory board of the project Giocampus (2008-to date).

Prof. Brighenti's research work is mainly focused on the metabolic and physiological effects of foods and food components. On these topics he published more than 130 research papers on indexed international journals (see publication details and metrics on Research ID at http://www.researcherid.com/rid/E-4174-2010). Based on citation metrics, he's been included in the 2014 Thomson Reuters list of the Highly Cited Researchers in the field of Agricultural Sciences (http://highlycited.com) .

In vitro digestibility of carbohydrates as a marker of carbohydrate quality

Background and purpose: Postprandial glucose response is influenced not only by the efficiency in glucose disposal but also by the rate of glucose absorption, an effect strongly influenced by food nature and composition. Aim of this talk will be to briefly review the aspects of carbohydrate foods related to starch digestibility and glucose absorption. **Methods:** A review was made on the scientific literature reporting data on starch digestibility and postprandial glycaemia. Factors such as gastric emptying, accessibility to a-amylase, presence of dietary fibre and amylase inhibitors, food structure as affected by processing, cooking, and chewing, were investigated. Published methods aimed to assess the overall carbohydrate digestibility or specifically related aspects were also reviewed, including the EFSA opinions on Resistant and Slowly-Digestible Starch in Starch-containing foods. Food studies that used emerging techniques such as Scanning Electron Microscopy and Differential Scanning Calorimetry were also explored to identify possible mechanisms of action. **Conclusions and implications:** In-vitro starch digestibility and other laboratory techniques may represent useful for exploring mechanisms of action of low-glycaemic index foods, in pre-screening foods to be further submitted to in-vivo testing and in designing novel foods specially aimed to control the postprandial glucose response. However, they do not completely describe the complex nature of the interaction of foods/diets with the human digestive physiology and metabolism of nutrients.

Learning objectives:

1. Postprandial glucose response may be affected by food quality
2. In-vitro Starch digestibility may represent a marker of food quality
3. Industrial and domestic food processing can be used to manipulate starch digestibility, and thus the effect of carbohydrate foods on postprandial glycaemia.
4. Dietary advice on carbohydrate-foods selection may benefit from information on carbohydrate quality data assessed by both in-vitro and in-vivo methods