

Method / Design: Studies published before 14 January 2015 investigating biomarkers of total polyphenols or flavonoids, flavanols, flavonols, flavanones, flavones and stilbenes and any chronic disease were identified through PubMed, Web of Science, and reference lists. Studies were eligible if they reported on multiple adjusted associations of health outcomes in human studies. Outcomes were grouped into all-cause mortality, cancer, cardiovascular disease (CVD) or other.

Results: Nineteen studies were retained investigating 22 different biomarkers of polyphenolic compounds in association with 20 outcomes. Eleven, seven and one studies were conducted in Asia, Europe and USA, respectively. Two prospective, eight nested case-control, four case-control, and five cross-sectional designed studies were used, which included between 81 and 1053 participants. Sixteen studies used urine and three used plasma biomarkers. Inverse associations were found for one of two studies for all-cause mortality, three of nine studies for cancer, one of two studies for CVD, and three of six studies for other outcomes. Positive associations were reported in both two cancer and other studies. Most inverse associations were found for total polyphenols and the flavanol compound epigallocatechin.

Conclusions: Studies using biomarkers add to the evidence for inverse associations between polyphenols and some chronic diseases. However, the overall picture is still inconclusive and more prospective studies are needed.

Keywords: (maximum 5): Polyphenols, biomarkers, chronic diseases, observational studies, epidemiology

149/1124. Correlation between the probability of consumption and consumption-day amount on 24-hour recalls

Author(s): (1) Johanna Freese; (1) Thorsten Heuer; (1) Matthias Clemens; (2) Heiner Boeing; (1) Ute Nöthlings; (3) Sven Knüppel.

Affiliation: (1) *Nutritionist. Department of Nutrition and Food Sciences. Nutritional Epidemiology. University Bonn. Germany;* (2) *Nutritionist. Department of Epidemiology. German Institute of Human Nutrition Potsdam-Rehbruecke. Germany;* (3) *MSc Epidemiology, German Institute of Human Nutrition Potsdam-Rehbrücke. Germany.*

Introduction: It is presumed that the usual food intake (e.g. gram/day) of a study participant equals the probability of consumption of a food on a given day times the amount of food intake. The correlation between those two parts may be of relevance for statistical modeling.

Objectives: To study the correlation between the probability of consumption and consumption-day amount using 24-hour dietary recall (24HDR) data from the German National Nutrition Survey II (NVS II)

Method / Design: The NVS II was carried out from November 2005 to January 2007 in a representative sample of the German-speaking population. Dietary intake was assessed on two non-consecutive days using a well-established computerized 24HDR (n=12,502; aged 20-80 years). The MIXTRAN SAS macro developed by the US Natio-

nal Cancer Institute (NCI) was applied to study the correlation between the probability of consumption and consumption-day amount in 15 groups of foods and beverages.

Results: After adjustment for sex, age (years), body-mass-index (kg/m²), weekend (yes, no) and season (spring, summer, fall, winter), a positive correlation rho between consumption probability and consumption-day amount was observed for all 15 food groups (mean rho=0.49). The correlation rho ranged from rho=0.12 (95% CI: 0.01; 0.23) for the food group cake and cookies to rho=0.75 (95% CI: 0.71; 0.79) for drinking water.

Conclusions: Overall, a positive correlation between the probability of consumption and consumption-day amount was found. Study participants who ate a food group more frequently tended to eat more of it. The impact for statistical modeling of usual dietary intake needs to be evaluated in future studies.

Keywords: (maximum 5): usual dietary intake, statistical modeling, large-scale cohort studies

149/1146. Validity of the performance of a panel trained in satiety assessment on food intake measures

Author(s): (1) Aurélie Lesdéma; (2) Elisabeth Piquenot; (3) Marie-Christine Marcuz; (4) Sophie Vinoy.

Affiliation: (1) *Health Benefit Scientist. PhD. Nutrition Research Team. Mondelez International Biscuit R&D. France;* (2) *Panel leader. Consumer science Team. Mondelez International Biscuit R&D. France;* (3) *Section Manager. Consumer science Team. Mondelez International Biscuit R&D. France;* (4) *Principal Scientist Nutrition. PhD. Nutrition Research Team. Mondelez International Biscuit R&D. France.*

Introduction: Enhanced satiety food is one the big challenges for food companies. In this context, we developed a new approach based on the training of panelists in satiety assessment by using visual analogue scales (VAS). This specific training provided discriminative results and the methodology was reproducible.

Objectives: The aim of this work was to evaluate the link between appetite score measured by VAS and food intake, using our methodology developed on the satiety panel.

Method / Design: In a randomized cross-over design, sixteen sensory panellists who have been previously trained in satiety feelings assessment evaluated 6 cereal based products. The selected products represented large scale of satiety sensations and were French baguette, wholemeal bread, crumbly biscuit, natte, yoghurt cake and strawberry filled soft cake. During each cross-over randomized session, the fasting panellists consumed a 250kcal-portion of product and answered to the four VAS (hunger, fullness, desire to eat and prospective consumption) every 30 min during 2h30. The satiety power of the products was compared by calculating the average appetite score. An ad libitum meal was served 2H30 after beginning of breakfast to evaluate food intake at lunch.