Oral Abstract 4 - Almonds improve glycemic control in Chinese patients with type 2 diabetes mellitus (Oliver Chen, USA)

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Objective: Our previous study showed that consumption of ~60 g/d almonds for 4 weeks improved adiposity, glycemic control, lipid profile, oxidative stress, and inflammation in Chinese T2DM patients. To substantiate these health benefits, we conducted a 7-month randomized, cross-over, controlled feeding trial with 2-wk run-in, 2 phases of 3-mo intervention, and 2-wk washout.
Methods: Of 727 eligible patients (aged 40-70 y, >5 y diabetes history, 24-35 kg/m^2 BMI, 6.5-9% HbA1c), 40 patients were enrolled and assigned to consume control diet (CON) prepared based on the NCEP step II guidelines and almond diet (ALM) designed by incorporating ~60 g/d almonds to CON to replace 20% daily calories. All meals were provided during the intervention phases. The daily dose of almonds either was consumed as a snack or was incorporated to foods, e.g., steam bun, bread, pizza, and dumpling. Seven subjects dropped out from the trial because of personal reasons. Blood was collected before and after each intervention phase for analyses for biomarkers of lipid profile, glucoregulation, inflammation, oxidative stress, and endothelial function.
Results: Among 33 patients who completed the trial, ALM didn't improve the studied biomarkers as compared to CON. In a subset data, 27 subjects with HbA1c value <8% had a lower HbA1c value at the end of the ALM phase than CON (7.01 ± 0.60 vs. 7.23 ± 0.63%, P = 0.027). Similarly, their fasting glucose and postprandial insulin release were lower after ALM.
Conclusions: Almonds incorporated to a healthy diet is beneficial to glycemic control in Chinese T2DM patients. While the reduction in HbA1c was modest, bringing its level close to 7% is crucial to preventing or delaying development of complications. Factors underlying the less robust outcomes in this study than the first trial will be discussed.
Protocol registration: clinicaltrials.gov identifier, NCT01656850
Funding Source: Almond Board of California

Oral Abstract 5 - Guidelines and nut consumption in Norway (Lars Johansson, Norway)

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Objective: Evaluate trends in nut consumption in relation to dietary guidelines. Norway included "Eat a small handful of unsalted nuts daily" in the dietary guidelines in 2011. This corresponds to 20 gram per day, and includes almonds and peanuts. From 2015 packages of unsalted nuts may be labelled with the Keyhole symbol.
Methods: Nut consumption is described by data for import by Statistics Norway, grocery trade by Nielsen, Household Consumption Surveys, national dietary surveys among adults and the survey Norwegian Eating Facts, Ipsos MMI.
Results: Import of nuts and peanuts increased from 8 to 10 gram per person per day (g/p/d) during 1989-2013. Grocery sales of nuts during 2011-2013 were 6 g/p/d.
The average purchase of nuts, olives and seeds during two weeks reported by households increased from 3 to 8 g/p/d from 1982 to 2012. Hereof were nuts 3.8 g, almonds 1.6 g, peanuts 1.6 g and olives 0.5 g in 2012. The proportion of total intake from nuts, almonds and peanuts was for energy 1.9, protein 1.5, fat 1, PUFA 8, CHO 0.2 and fiber 2%.