

# Nutrition

## Patient summaries

### Comparative study of Regular DASH diet and Higher Fat DASH diet on blood pressure and lipid profiles.

**Background:** DASH (dietary approach to stop hypertension) diet was developed to lower hypertension and to maintain normal blood pressure levels. It includes the consumption of high amounts of fruits, vegetables, and low-fat dairy products. The aim of the DASH diet is to reduce the consumption of sodium, which greatly improves blood pressure levels. This diet has also been shown to decrease low-density lipoproteins (LDL or “bad cholesterol”), which reduces the risk of cardiovascular disease (CVD). This may be due to the DASH diet being low in saturated fats.

**Purpose:** To see whether a change in the amount and type of fat contributes the same, more or less benefit compared to the normal DASH diet. By increasing the amount of calories from fat, the hope is to decrease the amount of calories from carbohydrates (CHOs), specifically sugar, which may contribute the beneficial effects of a (high fat) HF-DASH diet, despite any increase in saturated fat content.

#### Population:

Healthy individuals over 21 years with a blood pressure ranging to 160/80 mmHg were selected to participate in this study.

Exclusion criteria included those that use nicotine products/recreational drugs, medications that affect hormones, lipid metabolism or blood pressure, unwilling to refrain from alcohol during this study, elevated cholesterol levels, abnormally high fasting glucose levels and those who are morbidly overweight.

#### Procedure:

Participants were given 3 different diets: their normal diet (control diet), normal dash diet (DASH), and high fat dash diet (HF-DASH) for a 3-week period, with a one week break in between. A limitation of this study may have been the short break between diets, as some carry over effects were seen, changing baseline values of each diet. HF-DASH diet is simply the DASH diet but instead of the low fat dairy products, full fat cheese, milk and yogurt were used and sugars were reduced mostly from fruit juices. Participants were given food for the DASH and HF-DASH diets, and all three diets had the same calories to maintain the participant’s body weight. Measurements of blood pressure and lipids were taken before and after each 3-week diet period. Energy intake and exercise was the same between each diet.

#### Results:

Compared to the control diet, DASH and HF-DASH decreased blood pressure. HF-DASH and DASH led to similar results in terms of blood pressure. Both the DASH and HF- DASH diet decreased cholesterol levels as compared to the control diet. It must be noted that HF-DASH significantly lowered plasma triglycerides, large and medium VLDL’s (very low density lipoproteins), and increased LDL particle size. With the HF-DASH there was a shift towards larger LDL particles, which is seen to be beneficial for health. HDL was lowered with DASH but not with HF-DASH.

**Incorporating full-fat dairy into the DASH diet, being mindful of caloric intake, may further benefit patients’ chronic disease risk factors.**

#### Conclusion:

Compliance can be an issue for restrictive diets. Increasing the likability and variety of food choices for individuals such as being able to incorporate high fat dairy may prove to retain dieters. The DASH diet with more fat and less carbohydrates was shown to have more positive effects than the traditional DASH diet alone. Both DASH and HF-DASH alleviated hypertension and decreased bad cholesterol levels. But only HF-DASH diet increased good cholesterol (HDL-high density lipoproteins) decreased triglyceride levels and increased the LDL size (beneficial). Therefore, a DASH diet with more liberal use of fat may be more effective and easier to follow than the original DASH diet.

\*\*\*\*\*

*Full Article Title: “Comparison of the DASH (dietary Approaches to Stop Hypertension) diet and a higher fat DASH diet on blood pressure and lipids and lipoproteins: a randomized controlled trial.”*

Written by: Punnya Andrews and Krista

Edited by: Neeka Tabatabaei

Nutrition and Disease, Rutgers University, Dr. Sue Shapses

*Nutrition research summaries should not be used as a substitute for advice from your own medical provider. Speak with your dietitian or physician about additional advice or if you have a question about this material.*