



## The Landmark Dietary Supplement Study

March 2008 is National Nutrition Month<sup>®</sup>, an annual nutrition education and information campaign created by the American Dietetic Association. Now in its 35<sup>th</sup> year, the campaign is designed to focus attention on the importance of making informed food choices and developing sound eating and physical activity habits.

### 1. The Shaklee Landmark Study

Here at Shaklee, we've been supporting healthy lifestyles including healthy food choices, smart supplementation, and regular exercise for over 50 years! And now we're proud to have published the Shaklee 50<sup>th</sup> Anniversary Dietary Supplement Study, a landmark first-of-its-kind study that supports the potential benefits of long-term supplementation in a unique consumer population. The study, [Usage patterns, health, and nutritional status of long-term multiple dietary supplement users: a cross-sectional study](#) was published in *Nutrition Journal*, an online peer-reviewed scientific journal on October 24, 2007.

And the results are stunning! Long-term dietary supplement use was consistently associated with more favorable blood levels of important nutrients and key heart health biomarkers. More importantly, long-term users of multiple dietary supplements generally reported lower prevalence of disease in self reported health conditions including elevated blood pressure and diabetes, when compared to single multivitamin users and nonusers.

This first-of-its-kind study was conducted on a unique study population using new online data collection methods employed for the very first time in collaboration with renowned nutritional epidemiologist Dr. Gladys Block, from the University of California, Berkeley, School of Public Health.

Information regarding diet and supplement intakes, exercise, and health status was obtained from online questionnaires and on-site physical examinations from 278 long-term Shaklee multiple dietary supplement consumers. Data for 602 matched nonusers and 176 single multivitamin supplement users was obtained from the Nationwide Health and Nutrition Examination Survey (NHANES) the largest and longest running national health and nutrition survey, sponsored by the National Center for Health Statistics.

### 2. Study Results

The long-term multiple supplement users included more females, were slightly older, better educated, had higher incomes, and lower body mass index (BMI) than the other groups. Dietary supplements consumed on a daily basis by more than 50% of the multiple supplement users included such products as a multivitamin/mineral, vitamin B-complex, vitamin C, carotenoids, calcium with vitamin D, omega-3 fatty acids, flavonoids, glucosamine, an herbal immune supplement, a probiotic supplement (women), and a soy protein supplement (men).

*Blood Nutrient Levels* generally increased with increasing dietary supplement use. Blood nutrient levels for folate, vitamin C, alpha and beta carotene, and vitamin E were consistently found at more optimal levels in the multiple supplement user population. To address the safety of long term use of a broad array of supplements, the investigators also found healthy and safe blood levels of vitamin D and iron, nutrients for which high intakes have been associated with possible adverse effects. Specifically, serum ferritin, a measure of iron storage, was highest, and more optimal, among women in the multiple supplement user group vs single multivitamin users and nonusers.

Conversely, it was lowest, but still more optimal, in the male multiple supplement users compared to the two other groups.

*Blood Biomarkers.* Multiple supplement users had higher blood levels of HDL cholesterol and lower blood levels of triglycerides, both consistent with lower heart disease risk. Increased supplement use was also associated with more favorable concentrations of serum homocysteine and C-reactive protein, a marker of low grade inflammation. Of note is the fact that *none* of the 278 multiple supplement study participants had an elevated CRP level (>3.0 mg/L) identified as high risk by the American Heart Association.

*Disease Prevalence.* In general, disease prevalence was lower in the multiple supplement user group compared to the multivitamin only user and nonuser groups. In addition, when researchers controlled for differences between groups in variables such as age, sex, education, income, and body mass index, they found the risk of elevated blood pressure was 39% lower in multiple supplement users than in nonusers and the risk of diabetes was 72% lower in multiple supplement users compared to nonusers. Finally, long-term multiple supplement users were four times more likely to describe their health as "very good or excellent" compared to nonusers.

### 3. Study Conclusions

This landmark study provides compelling support for the health benefits seen in long-term users of a broad array of dietary supplements as compared to single multivitamin and non-supplement users. Long-term multiple dietary supplement users consumed a broad array of vitamin/mineral, botanical, and condition-specific dietary supplements on a daily basis. They were more likely to have optimal concentrations of chronic disease-related biomarkers including serum homocysteine, C-reactive protein, high-density lipoprotein cholesterol, and triglycerides and less likely to have suboptimal blood nutrient concentrations including folate, vitamin C, alpha- and beta-carotene, and vitamin E. Long-term supplement users also had a lower risk of prevalent elevated blood pressure and diabetes compared to nonusers.

A limitation of the study is the fact that the data are cross-sectional, and therefore the reported associations cannot presume causality. And although quite compelling in their support for the health benefits of supplementation, the study findings need to be confirmed by further research into the usage patterns, health, and nutritional status of other groups of long-term users of dietary supplements.

### 4. What This Means for You

The Landmark Study findings help to validate what we in Shaklee Science and Technology have promoted all along. Long-term healthy Shaklee lifestyle approaches including smart dietary choices from foods and supplements, and regular exercise to achieve and maintain a healthy weight are indeed strong supporters of optimal health and vitality. And we want you to be sure that your healthy lifestyle includes these smart diet, supplementation, and exercise strategies as you strive to achieve optimal health:

*Eat Healthy.* Your healthy eating plan includes smart choices from every food group and emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk products. It also includes lean meats, poultry, fish, beans, eggs, and nuts and is low in saturated fats, *trans* fats, cholesterol, salt, and added sugars.

*Supplement Wisely.* Make wise supplement choices a part of your daily routine. A comprehensive and balanced multivitamin/mineral supplement with at least 500 mg calcium and vitamin D just makes good sense. Antioxidant nutrients help protect cells against aging so be sure you're considering the antioxidant vitamins C and E, and beta carotene. Ensure your intake of critical B

vitamins including folic acid, vitamins B6 and B12, to help protect DNA and support healthy aging. Try to increase your intake of the omega three fatty acids, EPA and DHA, which have been associated with reduced risk of coronary heart disease as well as improvements in inflammatory and metabolic balance. Finally, look to probiotic nutrition to support healthy digestion and immune function.

*Exercise and Achieve a Healthy Weight.* For the two out of every three Americans who are overweight or obese, losing weight is the first priority for improving health. Make regular physical activity a key component of your overall health management program to balance your caloric intake from food with the calories you expend each day. Try to be physically active for at least 30-60 minutes most days of the week and increase exercise duration or intensity for even greater health benefits or to help manage body weight.

Live Better...this month, during National Nutrition Month®...and every month with Shaklee!

Be well.

A handwritten signature in black ink that reads "Dr. Jamie". The signature is written in a cursive, flowing style.

**Dr. Jamie McManus MD, FAAFP**

Chairman, Medical Affairs, Health Sciences and Education