Feasibility, Safety and Acceptability of Soy-Based Diet for Pregnant Women: Preliminary Results from a Pilot Randomized Controlled Trial

Ling Shi  
*University of Massachusetts Boston*

Vidya Iyer  
*Tufts Medical Center*

Errol Norwitz  
*Tufts Medical Center*

See next page for additional authors

Follow this and additional works at: [http://escholarship.umassmed.edu/cts_retreat](http://escholarship.umassmed.edu/cts_retreat)

Part of the *Dietetics and Clinical Nutrition Commons, Maternal and Child Health Commons, Obstetrics and Gynecology Commons, Translational Medical Research Commons*, and the *Women's Health Commons*

---


[http://escholarship.umassmed.edu/cts_retreat/2017/posters/72](http://escholarship.umassmed.edu/cts_retreat/2017/posters/72)

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in UMass Center for Clinical and Translational Science Research Retreat by an authorized administrator of eScholarship@UMMS. For more information, please contact Lisa.Palmer@umassmed.edu.
Presenter Information
Ling Shi, Vidya Iyer, Errol Norwitz, Tiffany A. Moore Simas, Nirupa R. Matthan, Alice H. Lichtenstein, and Laura L. Hayman

Keywords
pregnant women, diet, soy, cardiometabolic risk factors

Creative Commons License
This work is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 License.
FEASIBILITY, SAFETY AND ACCEPTABILITY OF SOY-BASED DIET FOR PREGNANT WOMEN: PRELIMINARY RESULTS FROM A PILOT RANDOMIZED CONTROLLED TRIAL

Ling Shi, PhD1, Vidya Iyer, MD2, Errol Norwitz, MD2, Tiffany A. Moore Simas, MD3, Nirupa R Matthan, PhD4, Alice H. Lichtenstein, ScD 4, Laura L. Hayman, PhD1

1University of Massachusetts Boston; 2Tufts Medical Center; 3University of Massachusetts Medical School; 4JM USDA Human Nutrition Research Center on Aging, Tufts University

Background: Previous evidence suggests that soy containing foods may have beneficial effects on lipid and glycemic metabolism. Pregnancy is associated with a progressive deterioration in glucose and lipid metabolism, partially attributable to elevated estrogen concentrations. Little is known about the effects of soy intake on cardiometabolic risk factors in pregnant women.

Methods: A pilot RCT was conducted in 30 pregnant women who were randomized to receive counseling to consume a high-soy or low-soy foods containing diet. Assessments (physical measurements, food frequency questionnaires, fasting blood samples) were conducted at 14 and 28 weeks of pregnancy, and 6 weeks’ postpartum. Monthly follow-up calls were conducted to assess safety and encourage adherence.

Results: Both the high-soy and low-soy groups demonstrated high adherence (80-90%), defined as consuming soy foods ≥ 15 days in the past four weeks for high-soy group and ≤ 5 days for low-soy group. Five adverse events possibly associated with soy intake were reported (nausea, vomiting, diarrhea, itchy mouth); all were transient and resolved without sequelae. The high-soy group lost body fat between baseline and postpartum while the low-soy group gained body fat, as reflected by change in triceps skinfold thickness (-4.8 mm vs +3.6 mm, p=0.04). There was a trend towards an improvement in BMI in the high-soy group, both at 28 weeks (+1.4 vs. +3.6 kg/m², p=0.15) and postpartum (-1.2 vs. +0.6 kg/m², p=0.14). There were no differences between groups in fasting glucose, HDL-C, LDL-C, TG, or VLDL levels.

Conclusion: Initial results from this pilot RCT support the acceptability and safety of consuming soy-based whole foods during pregnancy. A larger-scale RCT is needed to further elucidate the effects of soy diet on cardiometabolic risk among pregnant women.

Contact:
Ling Shi
University of Massachusetts Boston
ling.shi@umb.edu