

Brain to toe therapeutic lifestyle changes (TLC) bench-to-clinic-to-community systems approaches to climacteric

Nasca et al.

Melita M. Nasca, Ph.D.*, Francine K. Welty, M.D., Ph.D., Jin-Rong Zhou, Ph.D.

Cardiovascular Division and Nutrition Metabolism Laboratory, Beth Israel Deaconess Medical Center, Harvard Medical School Boston, MA

* Former Research Fellow in Medicine-currently launching an independent, human health, fitness and performance enterprise

Escalating stroke, heart attack and dementia incidence with Hormone Replacement Therapy promoted soy, a phytoestrogen-rich Asian staple, as natural forerunner to menopause managing.

Methods

We examined effects of 25 g/day whole soy beans in TLC vs TLC diet alone on menopausal symptoms and cardiovascular risk of 60 NE American women in a randomized clinical trial: molecular markers were ELISA, immunoturbidimetric and HPLC measured, symptoms with MENQOL. Subsequently, feasibility was field-tested cultivating a distinct batch of soy beans in TLC within UW's urban organic garden community representing 60 countries in American Midwest.

Results

Whole soy in TLC diet significantly reduced: hot flashes/day (4.1 ± 2.6 vs 7.5 ± 3.6); blood pressure mmHg systolic (137 ± 15 vs 152 ± 12 in hypertensive women and 110 ± 11 vs 116 ± 10 in normotensive) and diastolic (82 ± 8 vs 88 ± 7 in hypertensive and 67 ± 7 vs 69 ± 8 in normotensive); LDL cholesterol mg/dl (146 ± 46 vs 164 ± 57 in hypertensive); sVCAM-1 ng/ml (554 ± 114 vs 624 ± 154 in hypertensive) and improved vasomotor (19%), physical (9.7%) and psychosocial (12.9%) scores. Equol producers with metabolic syndrome (MetS) reduced CRP mg/dl (0.11 ± 0.92 vs 0.14 ± 1.00 and 0.07 ± 0.09 vs 0.10 ± 0.25 without) and sICAM-1 in ng/ml (316 ± 46 vs 341 ± 52 with MetS). Various organic plant foods including soy were successfully and sustainably cultivated to harvest and consumption via habitual physical activity.

Conclusions

Whole soy in TLC diet reduced inflammation-mediated risk factors of stroke, heart diseases and vascular dementia, menopausal symptoms and improved quality of life in midlife American

women with or without MetS. Soy in TLC cultivation is feasible in urban organic community gardens. Integrating 21st century approaches to climacteric in systems fashion may help optimize its mechanistic science, upgrade clinical assessment, prevention or interventions and translate them into real-life implementations of improved availability, affordability and sustainability.