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## Dietary and lifestyle habits, intestinal microflora and equol producer phenotype in postmenopausal Japanese women

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**Statement of the Problem:** Equol is an active metabolite produced from isoflavones. It was found to be beneficial against climacteric symptoms, arteriosclerosis and reduced bone mass in postmenopausal women. There are individual variations in producing equol from isoflavones, due to different dietary habits, host gut microflora and genetic variants. Few studies have examined the relationships of dietary habits and nature of gut microflora to equol producer phenotype. This study aimed to identify these associations in healthy postmenopausal Japanese women.

**Methodology & Theoretical Orientation:** Fifty eight participants (aged 48 – 69 years) were recruited from healthy postmenopausal Japanese women who visited Sendai Medical Center in January 2018. Dietary habits were assessed by a brief self-administered diet history questionnaire. From the fecal samples, bacterial 16S rRNA genes were extracted and analyzed using the next generation sequencer. Urinary equol was measured by using immunochromatographic strip test. Participants were defined as equol producers with a urinary equol level higher than 1.0 µM.

**Findings:** There were 13 (22%) equol producers (EQP) and 45 (78%) equol non-producers (EQNP). Compared to EQNP, EQP had significantly higher microflora diversity. Equol producers were positively associated with frequency of intake of refined grains, colorful vegetables, fermented soy, seaweeds, and mushrooms, but negatively associated with frequency of meat intake. High intake of root vegetables, fruits, probiotics such as yogurt, mushrooms had positive effect on microbial diversity, whereas, high intake of coffee and smoking habit had negative effect. Equol producing bacteria were present in 96% (43) of EQNP and significantly higher in those with regular physical activity.

**Conclusion & Significance:** Equol producing bacteria were present in almost all participants, however, only a few are equol producers. Diversity of gut microflora had positive effect on equol producing ability. High microbial diversity can be achieved by certain dietary and lifestyle habits.

### Biography

Dr. Remi Yoshikata is the board-certified specialist of obstetrics and gynecology. She has also worked in both clinical and academic areas as well as involved in medical education. Her research interests are focused on Women's Health and Climacteric Medicine. So she is frequently invited to speak to both professional and lay audiences on these topics. She has voiced on new perspectives of comprehensive women's health care through daily clinical practice and academic seminars. She not only has held posts in the Women's Health and Climacteric Medicine Society but also published a few books and many articles on women's health.

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