

Emerging Lifestyle Intervention and Alternative Therapies for Gut Modulation in Women's Health: A Focus on Menstrual, Reproductive and Hormonal Health

MANIKA SETIA¹, MADHVI AWASTHI²

ABSTRACT

The interplay between gut microbiota and women's health is a rapidly evolving field. The gut microbiome significantly influences oestrogen metabolism, immune regulation, and systemic inflammation, impacting conditions such as Polycystic Ovary Syndrome (PCOS), endometriosis, and menstrual irregularities. Emerging evidence underscores the role of dietary bioactive compounds—such as polyphenols, probiotics, and prebiotics—in modulating gut microbiota to enhance overall well-being. There is a growing body of evidence on effect of alternate therapies like yoga, meditation, timerestricted feeding and sleep on gut modulation.

This review aims to study the effect of different diets, bioactive components and alternate therapies in modulating the gut microbiota and its subsequent effect on hormonal health of women with PCOS, endometriosis and menopause. In this narrative review, a comprehensive literature search was conducted using PubMed, Scopus and Google Scholar to identify peer-reviewed article published in English over the past 10 years. Keywords and Boolean operators such as "gut microbiome AND women's health", "probiotics AND women's health" and "alternative therapies AND

hormonal balance" were used to retrieve studies. Inclusion criteria encompassed clinical trials, observational studies, and review articles discussing the impact of diet, probiotics, prebiotics, physical activity, stress management and integrative therapies in gut modulation in women. Diets rich in fibre and antioxidants like the mediterranean diets promote the growth of beneficial bacteria, facilitating hormonal balance and reducing inflammatory responses.

Similarly, physical activity, sleep management, further optimise gut health by reducing dysbiosis and improving gut-brain axis communication, crucial for hormonal equilibrium. Alternative therapies, like yoga, meditation and time-restricted eating pattern, have shown promise in restoring microbial diversity and improving clinical outcomes in gut-mediated disorders.

This review synthesises the current understanding of gut modulation strategies and their implications for menstrual and reproductive health, emphasising the integration of evidence-based lifestyle and alternative interventions for disease prevention and management.

Keywords: Gut microbiota, Endometriosis, Menopause, Mediterranean diet, Meditation, Time restricted feeding, Probiotics, Prebiotics, Yoga

PARTICULARS OF CONTRIBUTORS:

1. PhD Scholar, Department of Nutrition and Dietetics, School of Allied Health Sciences, Manav Rachna International Institute of Research and Studies (Deemed to be University), Faridabad, Haryana, India.
2. Associate Professor, Department of Nutrition and Dietetics, School of Allied Health Sciences, Manav Rachna International Institute of Research and Studies (Deemed to be University), Faridabad, Haryana, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Manika Setia,

PhD Scholar, Department of Nutrition and Dietetics, School of Allied Health Sciences, Manav Rachna International Institute of Research and Studies (Deemed to be University), Faridabad-121004, Haryana, India.

Email: manikasetia@gmail.com