

Microbiota: the Secret Director of the Human Health

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Background:

Research on the gut and vaginal microbiota and its relation to women's health has gained momentum recently. Microbiota works in synergy with the bowel, the gut brain, and other organs as a secret director of women' health. It modulates infections, fertility, pregnancy out-comes, genital and pelvic pain, oncology, depression.

Methods and Results:

Modifications of the microbiota, defined as "dysbiosis", modulate mucosal inflammation and HIV/HPV pathogenesis (1). Microbiota can affect female fertility before and during assisted reproductive treatments (2). It has an underappreciated role in hormones production and metabolism. Estrobolome and androbolome metabolize estrogens, glucocorticoids and also testosterone (3). An Italian survey in 1183 women with vulvodynia showed that 94,7% of them also had intestinal comorbidities like IBS and constipation. The gut dysbiosis can affect the integrity of the dynamic colonic frontier and contribute to vulvo-vaginal dysbiosis, recurrent candida vaginitis, and vulvar pain (4). A persistent intestinal dysbiosis seems to contribute to carcinogenesis in ovarian cancer (5).

Conclusions and Significance:

Microbiota is the secret director of women' health. The new microbiota metagenomic techniques will contribute to better understand the role of bacteria, viruses and other microbial agents as determinants of women' diseases. This may impact current clinical practice paradigms through a more personalized approach, based on the individual microbiota.

Keywords:

Gut microbiota, Vaginal microbiota, Women' health

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Thematic Area:

Frontiers in microbiome research