

Intravaginal and endometrial microbiota are important for human reproduction

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Intravaginal and endometrial microbiome are enormously important for human reproduction.

Almost 90% of child bearing age women have vaginal microbioma dominated by *L. crispatus*, *L. gasseri*, *L. iners*, or *L. jensenii*. Lactobacilli are responsible to maintaining a healthy milieu to allow for riskless reproduction, from conception to delivery. Bacterial vaginosis as well as sexually transmitted diseases impacts the reproductive tract microbiome and fertility. Pathogens present on the catheter at transfer time were associated with poorer outcomes. Instead, Lactobacilli dominance was linked to better outcomes. Controlled ovarian hyperstimulation required to achieve in vitro fertilization (IVF) success, also impact the vaginal microbiome.

Spermatozoa are required to negotiate several barriers to reach the ovum. Accordingly, there should be a compatibility between the upper and lower genital tract microbiome concerning reproduction.

The uterine microbiota is highly stable during the receptivity of the embryonic conceptus. The endometrium also has a microbiome often dominated by Lactobacilli and other vaginal bacterial species. Vaginal and endometrial microbiome are not identical in almost 20% of women. Pathological modification of the uterine microbiome is associated with poor reproductive outcomes in spontaneous pregnancies and IVF patients. Chronic endometritis has been linked with recurrent implantation failure and pregnancy loss. Bacterial endometrial contamination has been proposed as a new factor in endometriosis.

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