

# The human vulvar microbiome – a systematic review

L. Pagan<sup>1, 8</sup>, R.A.M. Ederveen<sup>2, 7</sup>, B.W. Huisman<sup>1, 8</sup>, J.W. Schoones<sup>3</sup>, R.D. Zwitter<sup>4</sup>, F.H.J. Schuren<sup>5</sup>, R. Rissmann<sup>1, 6</sup>, J.M.J. Piek<sup>7</sup>, M.I.E. van Poelgeest<sup>1, 8</sup>

1: Centre for Human Drug Research, Leiden, 2: Maastricht University Medical Centre, Maastricht, 3: Directorate of Research Policy, LUMC, Leiden, 4: Center for Microbiome Analyses and Therapeutics, LUMC, Leiden, 5: Netherlands Organisation for Applied Scientific Research, TNO, Zeist, 6: Leiden Amsterdam Center for Drug Research, Leiden University, Leiden, 7: Department of Obstetrics and Gynaecology and Catharina Cancer Institute, Catharina Ziekenhuis, Eindhoven; 8: Department of Gynecology and Obstetrics, LUMC, Leiden

## INTRODUCTION

- Suggested interplay between microbiome & disease
- Vulvar microbiome of vulvar pre-malignant diseases unknown

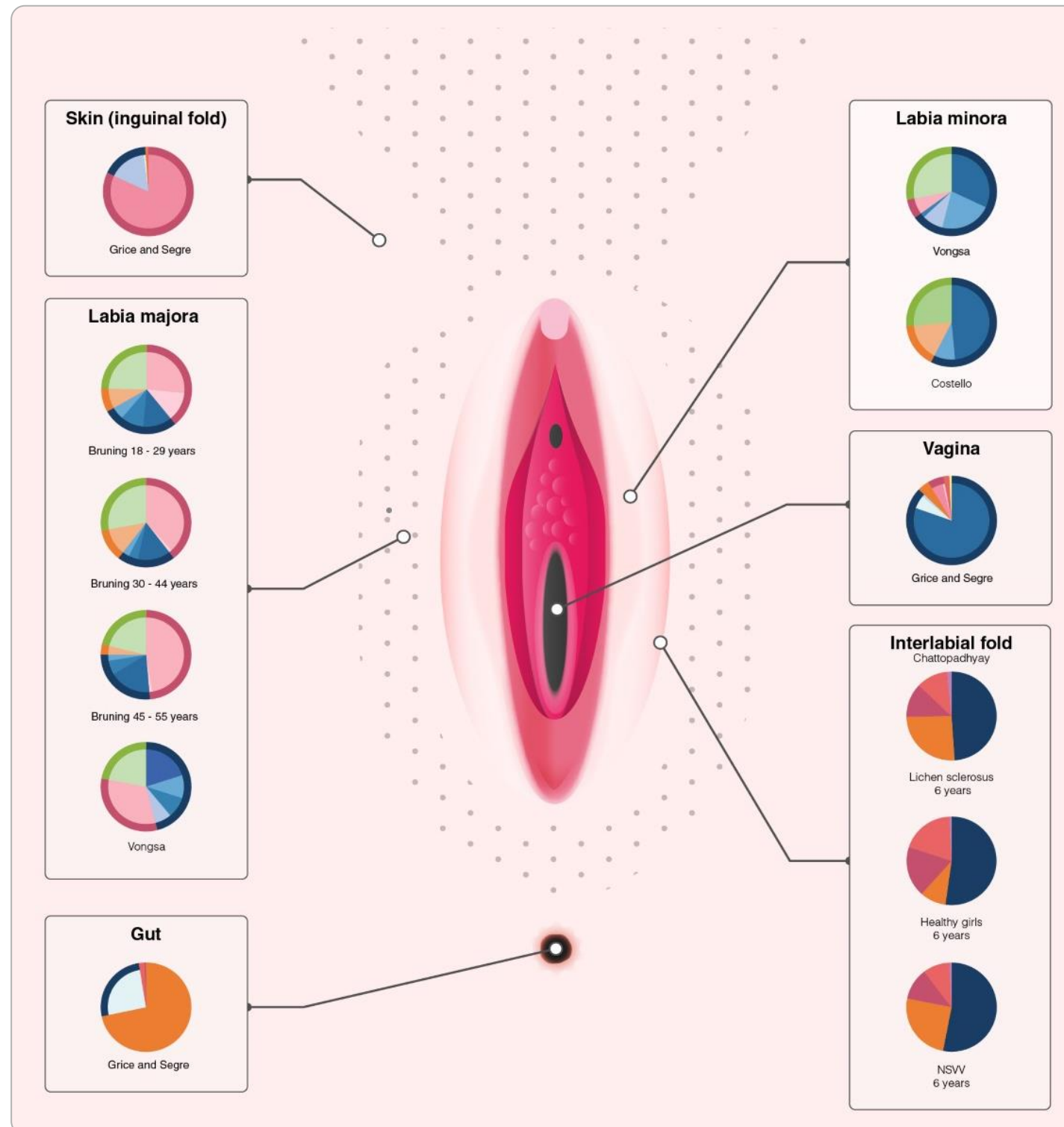
## OBJECTIVE

- To summarise studies to the vulvar microbiome composition in health and disease

## METHODS

- PRISMA guidelines
- Culture-independent vulvar microbiome studies
- Study quality assessment

## RESULTS



## DISCUSSION

- Unique niche
- Different constitutions per vulvar anatomical location
- Vaginal, cutaneous and intestinal commensals
- Low individual study quality
  - 10 studies included
- Recommendations:
  - Longitudinal, case- and location-controlled studies
  - Standardisation of lifestyle factors
  - Shotgun metagenomic methods

## CONCLUSION

- First vulvar microbiome review
- No information on (pre)malignant vulvar diseases
- Potential for disease elucidation and drug target development

