

The development and validation of two diagnostic methods for an open vagina

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INTRODUCTION

• Open vagina, vaginal gaping, gaping introitus

Clinical sign: "Opening, or non-coaptation of vagina at rest. If the introitus is not visible at rest the labia may need to be parted"

• But no conclusive definition, diagnostic method, prevalence or incidence data are available

• An open or gaping vagina has been linked in the literature to be a possible cause of vaginal flatulence [1]

OBJECTIVES

- Developing 2 reliable, reproducible and valid methods to diagnose an open vagina:
 - PHADOV (PHoto Analysis for Diagnosing Open Vagina)
 - QUDOVVF (QUestionnaire for Diagnosing Open Vagina and Vaginal Flatulence)

METHODS

- Approved by local ethical committee
- Population: premenopausal women, 18-50y
- PHADOV:
 - 2 researchers photographed genital area in rest, during pelvic floor contraction and during Valsalva manoeuvre.
 - Measurements:* horizontal and vertical diameters of the vaginal opening, and surface area.
 - Inter-rater and intra-rater reliability and reproducibility analysis using ICC (Intraclass Correlation Coefficient)
- QUDOVVF:
 - Filled in twice with 3-day interval. reliability analysis: using ICC
- PHADOV – QUDOVVF
 - Degree of agreement using Cohen's kappa

REFERENCES

[1] Neels H, Mortiers X, de Graaf S, Tjalma WAA, De Wachter S, Vermandel A. Vaginal wind: A literature review. *European journal of obstetrics, gynecology, and reproductive biology.* 2017;214:97-103.

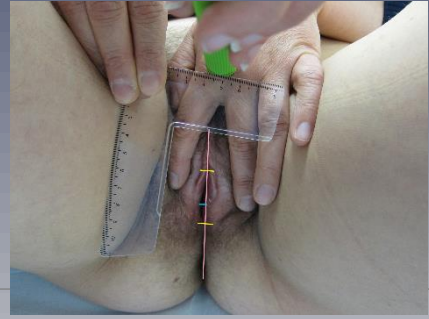


Figure 1: Example of analysed photo following the PHADOV-1 method

RESULTS



23 women
(age: M 31,5y; Min-Max 21-49y)
(parity: 13 nulliparous + 10 primi-/multiparous)

Reliability and reproducibility:

PHADOV:

Inter-rater reliability (ICC) ranges from 0.457 to 0.820 in rest; 0.376 to 0.824 during contraction of PFM; and 0.533 to 0.852 during Valsalva manoeuvre.

Intra-rater reliability (ICC) ranges from 0.755 to 0.998 in rest; 0.920 to 1.000 during contraction of the PFM; and 0.875 to 1.000 during Valsalva manoeuvre.

QUDOVVF:

ICC's were in the range of 0.81-1.00 for 20 questions, in the range of 0.61-0.80 for 14 questions, and ≤ 0.60 for 9 questions.

Validity:

High validity of PHADOV and QUDOVVF: expert opinion (urologists, gynaecologists and pelvic floor physiotherapists)

Agreement PHADOV – QUDOVVF:

Low Agreement (kappa value): -0,189

CONCLUSIONS

PHADOV and QUDOVVF are **reliable**, **reproducible** and **valid** methods to diagnose an open vagina or vaginal gaping.

PHADOV and QUDOVVF offer relevant implementation options for further research on prevalence, incidence, QoL, clinical relevance and treatment options of vaginal gaping.

Objective findings often do not correlate with subjective complaints:

- Some women do not feel their open vagina (found using PHADOV)
- Other women feel like they have an open vagina (not found using PHADOV)