

THE ASSOCIATION BETWEEN ENDOMETRIOSIS AND MIGRAINE: A SYSTEMATIC REVIEW AND META-ANALYSIS OF OBSERVATIONAL STUDIES

Giorgia Elisabeth Colombo^{1,2}, Sofia Makieva³, Edgardo Somigliana^{4,5}, Georgios Schoretsanitis^{6,7,8}, Brigitte Leeners³, Christian Polli², Noemi Salmeri⁵, Dimitrios Rafail Kalaitzopoulos^{9,†}, and Paola Vigano^{4,†}

- 1. Department of Obstetrics and Gynaecology, Chelsea and Westminster NHS Foundation Trust, London, UK
- 2. Endometriosis Center, Department of Obstetrics and Gynecology, Ospedale Regionale di Lugano, EOC, Lugano, Switzerland
- 3. Kinderwunschzentrum, Klinik für Reproduktions-Endokrinologie, Universitätsspital Zürich, Zürich, Switzerland.
- 4. Infertility Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy
- 5. Department of Clinical Sciences and Community Health, Università degli Studi di Milano, Milan, Italy
- 6. The Zucker Hillside Hospital, Department of Psychiatry, Northwell Health, Glen Oaks, USA.
- 7. Department of Psychiatry, Zucker School of Medicine at Northwell/Hofstra, Hempstead, USA.
- 8. Department of Psychiatry, Psychotherapy and Psychosomatics, Hospital of Psychiatry, University of Zurich, Zürich, Switzerland.
- 9. Department of Obstetrics and Gynecology, Spitäler Schaffhausen, Schaffhausen, Switzerland.

†Dimitrios Rafail Kalaitzopoulos and Paola Vigano’ contributed equally to this work.

BACKGROUND & AIMS

- Endometriosis and migraine both affect women of reproductive age with pain as a central feature [1]
- Migraine incidence rate in women is more than double the rate for men (23 per 1000 person-years compared to 10 per 1000 person-years) [1-3]
- Increasing attention is being given to the characterization of comorbidities in endometriosis to enhance clinical phenotyping
- Migraine has been reported to be significantly more common in individuals with endometriosis compared to the general population [1]
- Potential links include: hormonal milieu, inflammation, and/or genetic pre-disposition
- **Aim:** synthesize evidence regarding the association between endometriosis and migraine in order to inform screening, diagnosis, treatment selection, and patient education

CONCLUSIONS

This meta-analysis suggests **an association between endometriosis and migraine**. Given the elevated risk of bias, substantial heterogeneity among studies, residual confounding, and evidence of publication bias, further research is required to determine this association with certainty.



References

1. Jenabi E, Khazaei S (2020) Endometriosis and migraine headache risk: a meta-analysis. Women Health 60:939–945. 10.1080/03630242.2020.1779905
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3. Adewuyi EO, Sapkota Y, Auta A et al (2020) Shared molecular genetic mechanisms underlie endometriosis and migraine comorbidity. Genes (Basel) 11:1–26. 10.3390/genes11030268
4. Center CTNC. Review Manager (RevMan) Version 5.3. 2014.

METHODS

- Seven databases were searched from inception to 22/07/24 for terms relating to endometriosis and migraine
- Study screening and data extraction were performed by two independent reviewers, with input from a third to resolve conflicts
- The ROBINS-E tool was utilized to assess bias
- Meta-analysis was performed using RevMan [4]

RESULTS



- 13 studies were included in our analysis, comprising a total of 32,489 individuals in the exposure groups and 299,166 individuals in the control groups

- There was an elevated risk of **migraine** in individuals with **endometriosis**: Odds Ratio (OR) **2.25** (95% CI=1.85–2.72; n=13 studies; I² =81%)²
- The OR of **migraine without aura** was **2.64** (95% CI=1.89–3.69; n=3 studies; I² =0%)²
- The OR of **migraine with aura** was **3.47** (95% CI=0.53–22.89; n=3; I² =73%)
- Meta-analysis based on endometriosis or migraine subtype was not possible

