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Association between endometriosis and increased risk of migraine in women: a systematic review

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Introduction
Endometriosis is a chronic inflammatory gynecological disease that primarily affects women of reproductive age, leading to significant impacts on quality of life. Likewise, migraine has a high prevalence among women and is often associated with hormonal and inflammatory factors. In this context, recent studies suggest an association between endometriosis and an increased risk of migraine, possibly due to shared pathophysiological mechanisms.

Objective
To investigate the association between endometriosis and an increased risk of migraine in women.

Methods
This study is a systematic literature review based on articles selected from the Virtual Health Library and PubMed databases using the descriptors "Endometriosis" AND "Migraine." Full-text articles freely available in English and published between 2017 and 2025 were included. In addition, the PICO strategy was applied to structure the research question, considering: population (women), exposure (presence of endometriosis), comparison (women without endometriosis), and outcome (increased risk of migraine). Case reports, duplicate studies, and studies with limited relevance to the proposed topic were excluded. Initially, 48 articles were identified, of which only 10 met the eligibility criteria and were included in the study.

Results
The analyzed studies demonstrated a significant association between endometriosis and an increased risk of migraine in women. The main meta-analysis included in this review, comprising 331,655 participants, showed that women with endometriosis were approximately 2.25 times more likely to develop migraine compared to those without the disease (OR=2.25; 95% CI: 1.85–2.72), with an even stronger association observed for migraine without aura (OR=2.64; 95% CI: 1.89–3.69). Furthermore, some studies identified a relationship between moderate to severe forms of endometriosis and a higher occurrence of migraine symptoms, suggesting a direct impact of disease severity on headache manifestation. Additionally, the articles highlighted possible shared pathophysiological mechanisms between endometriosis and migraine, including estrogen-related hormonal changes, systemic inflammation, increased prostaglandin release, central sensitization, and activation of the trigeminovascular system, all of which may contribute to the development and chronicity of pain.

Conclusion
The association between endometriosis and migraine in women was shown to be significant across the analyzed studies, particularly among patients with more severe forms of the disease. The findings emphasize the possible involvement of shared hormonal, inflammatory, and neuroimmune mechanisms, reinforcing the importance of early recognition of this association and the adoption of individualized and multidisciplinary clinical approaches.

Keywords:
Migraine
Endometriosis
Women

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