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COMPARISON OF EASTERN AND WESTERN DIETS IN THE CONTEXT OF ENDOMETRIOSIS

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ABSTRACT

This review explores how dietary patterns from Eastern and Western cultures influence the risk and progression of endometriosis. Specifically, it highlights elements like curcumin – commonly found in Eastern diets – and how these components could alleviate or exacerbate the condition. Given endometriosis's increasing prevalence and the limited awareness about dietary influences, this paper seeks to illuminate the potential role of diet in managing and understanding the disease.

INTRODUCTION

Understanding Endometriosis

Endometriosis is a chronic, often painful condition where tissue similar to the uterine lining grows outside the uterus, typically affecting the ovaries, fallopian tubes, and pelvic lining. This misplaced tissue acts like uterine lining: thickening, breaking down, and bleeding with each menstrual cycle. However, unlike normal menstrual blood, this tissue has nowhere to exit the body, leading to inflammation, cysts, scar tissue, and adhesions. Symptoms include severe pelvic pain—especially during menstruation—digestive issues, and, in some cases, infertility.

Symptoms and Seeking Medical Help

While period cramps are common, endometriosis pain is usually more intense. Symptoms may include painful periods (dysmenorrhea), pain during bowel movements or urination, heavy menstrual bleeding, and fatigue. Notably, the severity of pain does not always reflect the amount of tissue growth—individuals with minor growths may experience severe pain, while others with extensive growth may feel little discomfort. Due to the overlap with other conditions, such as pelvic inflammatory disease or irritable bowel syndrome, prompt consultation with a doctor is recommended to prevent the condition from worsening.

Causes of Endometriosis

Endometriosis may stem from multiple mechanisms. Retrograde menstruation, for instance, allows menstrual blood to flow backward into the pelvic cavity, where endometrial cells can implant and grow. Cellular metaplasia, in which certain cells transform into endometrial-like cells outside the uterus, and the spread of endometrial tissue through stem cells, may also play roles. Estrogen dependency exacerbates this by stimulating inflammation and the growth of ectopic tissue.

Treatment of Endometriosis

Although there is no cure for endometriosis, several treatments can manage its symptoms. Hormone therapies, including oral contraceptives, progestins, and GnRH agonists or antagonists, help control endometrial tissue growth and reduce pain. Nonsteroidal anti-inflammatory drugs (NSAIDs) also offer relief. For severe cases, surgery such as laparoscopy or, less commonly, laparotomy can remove excess tissue. For those with advanced symptoms, hysterectomy or oophorectomy may be considered, although this will eliminate the possibility of pregnancy. Fertility treatments, like in-vitro fertilisation (IVF), may be explored before such surgeries.

Impact of Diet on Endometriosis

Eastern vs. Western Diets

Eastern diets, typical in many Asian cultures, are abundant in anti-inflammatory foods such as turmeric, ginger, garlic, vegetables, legumes, berries, and omega-3 sources like fish. Turmeric, rich in curcumin, is notable for its anti-inflammatory properties, which may alleviate endometriosis symptoms. Conversely, Western diets, prevalent in American and European cultures, often include more processed foods, red meats, sugars, and saturated fats—all linked to increased inflammation.

Incorporating anti-inflammatory foods from Eastern diets, such as turmeric, ginger, and omega-3-rich foods, into Western diets could reduce inflammation, potentially helping to manage endometriosis symptoms.

Curcumin's Therapeutic Potential in Endometriosis

A growing body of research examines curcumin's effects on endometriosis. Curcumin, derived from turmeric, is known for interacting with molecular pathways involved in inflammation, particularly NF-κB, which plays a crucial role in the body's inflammatory response.

Vallée and Lecarpentier (2020) analysed curcumin's biochemical effects on endometriosis by reviewing experimental and clinical studies. They highlighted curcumin's ability to reduce inflammation through downregulating NF-κB

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activity, thereby lowering pro-inflammatory cytokines and oxidative stress. This process could decrease endometriotic cell proliferation and encourage apoptosis (cell death) in ectopic endometrial cells. However, the authors urge further clinical trials to establish curcumin's effectiveness and safety for endometriosis patients.

Kamal et al. (2021) conducted a comprehensive review of curcumin's effects on reproductive disorders, including endometriosis. They found that curcumin might alleviate endometriosis symptoms through its anti-inflammatory, anti-proliferative, and pro-apoptotic effects. Preclinical studies showed promising results, such as reduced inflammation and the inhibition of endometriotic lesion growth, though clinical trials are needed to confirm these effects.

Balan et al. (2021) assessed curcumin and other phytochemicals' roles in endometriosis treatment. Their review indicated that curcumin could lower estrogen levels and inflammation, limit blood vessel formation (angiogenesis) in endometriotic lesions, and encourage apoptosis in abnormal cells. While preclinical findings support curcumin's therapeutic potential, more rigorous clinical trials are necessary to solidify its role in treatment protocols.

CONCLUSION

The interplay between diet and endometriosis provides a promising area for managing this condition. Eastern diets, rich in anti-inflammatory foods, may offer significant benefits for endometriosis patients, with studies showing curcumin's effectiveness in reducing inflammation, oxidative stress, and abnormal cell growth. Conversely, Western diets with high levels of processed foods and fats may exacerbate inflammation and endometriosis symptoms.

Incorporating anti-inflammatory foods, omega-3s, and plant-based nutrients from Eastern diets into Western dietary practices could support endometriosis management. This shift, alongside medical treatments, may enhance quality of life and alleviate symptoms for those affected by this often-misunderstood condition. Further research is essential to establish effective dietary guidelines and increase awareness of endometriosis and its impact on women's health.