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*Endometriosis and Infertility : An Analysis of Female Reproductive Impacts*

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#### Summary

**Introduction:** Endometriosis is a chronic disease affecting women with an average age of approximately 28 years. It is caused by the migration of fragments of endometrial tissue, normally located only in the uterine lining, to other regions of the body, mainly the abdomen and pelvis. The cause of this migration is not yet fully understood. Patients generally present with pain associated with the menstrual cycle (dysmenorrhea), pain during sexual intercourse (dyspareunia), and infertility. The intensity of symptoms is not directly related to the amount of ectopic endometrial tissue. Endometriosis can be identified in cases of characteristic symptoms or infertility without a defined cause. The diagnosis is confirmed by laparoscopy, and may be complemented by biopsy, pelvic ultrasound, or pelvic magnetic resonance imaging. After confirmation, it is essential to begin treatment with specialized medical follow-up. Treatment varies according to the stage of the disease, the patient's age, and the symptoms presented, and may include non-steroidal anti-inflammatory drugs, medications to reduce ovarian activity, surgery to remove ectopic tissue, and, in more severe cases, removal of the uterus or the uterus associated with the ovaries. **General Objective:** To investigate endometriosis and its relationship with female fertility, as well as its main consequences in a woman's life. **Materials and Methods:** A literature review will be conducted using databases such as Web of Science, PubMed, and SciELO, selecting articles of greater scientific relevance published between 2005 and 2025. **Keywords:** Women's health. Endometriosis. Fertility.

#### Abstract

**Introduction:** Endometriosis is a chronic disease that affects women with an average age of about 28 years. It is caused by the migration of endometrial tissue fragments, normally found only in the uterine lining, to other parts of the body, especially the abdomen and pelvic region. The reason for this tissue migration is still not fully understood. Patients commonly experience pain related to the menstrual cycle (dysmenorrhea), pain during sexual intercourse (dyspareunia), and infertility. Symptom severity does not necessarily depend on the amount of ectopic endometrial tissue. Endometriosis may be identified in women with typical symptoms or unexplained infertility. Diagnosis is confirmed by laparoscopy and may be complemented by biopsy, pelvic ultrasound, or pelvic magnetic resonance imaging. After diagnosis, treatment should begin under specialized medical supervision. Therapeutic management depends on disease stage, patient age, and symptoms, and may include nonsteroidal anti-inflammatory drugs, medications to reduce ovarian activity, surgical removal of ectopic tissue, and, in severe cases, removal of the uterus or both uterus and ovaries. **General Objective:** To investigate endometriosis and its relationship with female fertility, as well as its main impacts on women's lives. **Materials and Methods:** A bibliographic review will be conducted using databases such as Web of Science, PubMed, and Scielo, selecting scientifically relevant articles published between 2005 and 2025. **Keywords:** Women's health. Endometriosis. Fertility.

## 1. INTRODUCTION

The female reproductive system consists of a complex set of organs and structures that play an essential role in reproduction and hormonal health in women. It is composed of structures



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Internal structures, such as the uterus, ovaries, fallopian tubes, and vagina, as well as external components, such as the...  
vulva and clitoris (MOORE, 2019).

The uterus stands out as one of the main elements of this system. It is an organ.

A hollow, muscular structure located in the pelvis, whose primary function is to provide a suitable environment for

The implantation of the embryo and fetal development during gestation. Its anatomy presents

Shaped like an inverted pear, with dimensions that can vary throughout the plant's life.

women, especially during pregnancy and the menstrual cycle (GRAY, 2010).

The uterus is made up of three fundamental layers: the endometrium, the myometrium, and the perimetrium.

The endometrium is the mucous layer that lines the inside of the uterus and plays a role.

essential in the menstrual cycle and during pregnancy (MOORE, 2019). Its structure is highly dynamic,

undergoing changes throughout the menstrual cycle in response to hormonal variations, mainly

of estrogen and progesterone. The myometrium, in turn, is the intermediate layer formed by

Smooth muscle, responsible for uterine contractions during menstruation and childbirth. The perimetrium, on the other hand, is a complex organ.

It consists of an outer serous layer that lines the uterus, providing protection and support.

structural (MOORE, 2019).

Uterine function is directly related to the menstrual cycle and hormonal regulation.

During this period, changes in estrogen and progesterone levels promote modifications.

in the endometrium, preparing the uterus for a possible pregnancy. In the absence of fertilization, the process occurs.

The elimination of the endometrium, characterizing menstruation. The structural and functional integrity of the

The uterus is essential for female reproductive health, influencing fertility and development.

of pathologies, such as endometriosis (CONCEIÇÃO, 2005).

Endometriosis is a common gynecological condition that affects a significant portion of women.

It affects women of reproductive age. It is characterized by the presence of endometrial tissue outside the uterus.

uterine cavity, and can reach pelvic organs such as the ovaries, fallopian tubes, and peritoneum. This

The condition can cause various painful symptoms, including intense menstrual cramps and pain.

Chronic pelvic pain and difficulties getting pregnant (FREITAS, 2010).

Infertility related to endometriosis represents one of the main complications for

The disease affects women, compromising their reproductive health and quality of life.

to cause anatomical changes in the reproductive system, such as adhesions and obstruction of the fallopian tubes.

Fallopian tubes, making conception difficult (FEBRASGO, 2019). In addition, factors such as reduced...

Egg quality, hormonal changes during ovulation, and the pelvic inflammatory environment also play a role.

They contribute to infertility by hindering fertilization and embryo implantation.

(FREITAS, 2010).

Late diagnosis can delay the start of treatment and intensify the impacts of the disease.

Regarding fertility. Although the treatment is primarily aimed at relieving symptoms, it does not...



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It always favors conception, leading many women to resort to reproductive methods.

assisted, such as in vitro fertilization (IVF) (FEBRASGO, 2019).

## **2. THEORETICAL FRAMEWORK**

### **2.1 GENERAL OBJECTIVE**

Conduct a literature review investigating the relationship between endometriosis and fertility.  
feminine, as well as the main consequences in a woman's life.

### **2.2 SPECIFIC OBJECTIVE**

To educate women about the importance of early diagnosis and its impact.  
diagnosis in women's fertile lives, as well as the physical and emotional consequences.

### **2.3 THEORETICAL FRAMEWORK**

Endometriosis is a gynecological disease that affects a large number of women.  
Reproductive age. It is characterized by the presence of endometrial tissue outside the uterine cavity.  
mainly in the ovaries, fallopian tubes, uterine ligaments and, in rarer cases, in  
distant organs, such as the lungs. Under physiological conditions, endometrial tissue lines the inside  
It originates in the uterus and accompanies the menstrual cycle, being eliminated with each period. However, in  
In endometriosis, the tissue located outside the uterus also responds to hormonal variations, but, because  
The lack of a drainage pathway causes pain, inflammation, scarring, and adhesions.  
Adhesions can lead to blocked fallopian tubes, making conception difficult and associated with...  
Endometriosis and infertility are considered to have one of the major repercussions on reproductive life.  
female (FEBRASGO, 2019).

The pathology can present with different clinical manifestations, the most common symptoms being...  
Common symptoms include: pain during or after sexual intercourse, pain when urinating or defecating, chronic pelvic pain, and  
difficulty getting pregnant, with more intense complaints during the menstrual period (FEBRASGO,  
2019).

Diagnosing endometriosis is challenging and may involve clinical and imaging tests.  
such as transvaginal ultrasound, magnetic resonance imaging, and laparoscopy. Definitive confirmation  
It is usually performed via laparoscopy, as this method allows for direct visualization of the  
lesions and the collection of material for biopsy (MARQUI, 2014).



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The relationship between endometriosis and infertility represents one of the greatest clinical challenges, a since the disease can compromise ovarian function, egg quality, and permeability of the... Fallopian tubes and the process of embryonic implantation. These effects are associated with the response Local inflammation caused by ectopic endometrial cells, resulting in increased cytokines. interleukins, growth factors, angiogenic factors and immune system cells (DUARTE, 2021).

Endometriosis is considered one of the main causes of female infertility. Studies Studies indicate that approximately 30% to 50% of women with the disease experience difficulty with to become pregnant, especially those with more advanced forms (SILVA et al., 2021). The formation of Adhesions and tubal obstruction are determining factors, as they prevent the transport of the ovum to the... The uterus or fertilization itself. In addition, hormonal changes caused by endometriosis. They can compromise the uterine environment, making embryo implantation difficult (BULUN, 2009).

Treatment for infertility associated with endometriosis may include approaches pharmacological methods, such as the use of hormonal medications to reduce estrogen production, and Surgical interventions to remove endometrial lesions. When these measures are not Effective assisted reproductive techniques, such as in vitro fertilization (IVF), may be indicated. (DUNSELMAN, 2014).

The choice of treatment varies according to the severity of the endometriosis, the patient's age, The intensity of symptoms and reproductive desires vary. Treatment options range from analgesics and Anti-inflammatory drugs for pain control, and even hormonal treatments used to suppress the Menstruation and reducing the progression of endometrial tissue. Among the most commonly used medications These include oral contraceptives, hormonal intrauterine devices (IUDs), and hormone antagonists. GnRH (NAVARRO, 2006).

Knowledge about endometriosis has advanced considerably over the years. Current research seeks to better understand the pathogenesis of the disease, investigating mechanisms. molecular factors involved in the formation of ectopic endometrial tissue. Genetic, environmental and Immunological factors have been identified as possible contributors. Furthermore, the literature analyzes... implications of endometriosis at different stages of a woman's life, including menopause, as well such as the most appropriate treatments for each period (JESUS, 2019).

The analysis of the reproductive repercussions of endometriosis, as discussed by Tum (2019), It helps in defining therapeutic strategies focused on fertility. In parallel, studies... They are investigating new biomarkers for early diagnosis and the development of more effective therapies. specific and less invasive.

In summary, endometriosis is a complex gynecological condition that affects women in Fertile age, with a significant impact on quality of life and fertility. Early diagnosis and



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The appropriate therapeutic approach is fundamental to reducing the effects of the disease, especially

Regarding infertility, the choice of treatment should be individualized, considering the...

The extent of the disease, the severity of the symptoms, and the patient's reproductive desires all factor into the decision.

Research such as that of Donatti (2021) highlights the challenges faced by women with endometriosis and reinforce the importance of continuous medical follow-up. Furthermore, the Advances in assisted reproductive techniques have broadened the reproductive prospects of these women. patients. The evolution in the understanding of pathogenesis and therapeutic options points to Significant improvements in disease management, offering new possibilities for women. affected by this condition.

### **3. MATERIALS AND METHODS**

The research consists of a literature review whose objective was to analyze and gather data and information previously published in scientific articles about endometriosis. For this, she carried out- if the collection of material is done in recognized collections and databases, such as PubMed, SciELO, Library Virtual Health Library (VHL), Web of Science, as well as university libraries and government websites.

### **4. RESULTS AND DISCUSSION**

Based on the studies analyzed, the results show that endometriosis exerts... significant impact on women's reproductive health, especially with regard to infertility. The literature demonstrates that the presence of endometrial tissue is associated with processes chronic inflammatory conditions, formation of pelvic adhesions, and anatomical and functional changes of the reproductive system, compromising egg quality and the patency of the fallopian tubes. and embryonic implantation. It was observed that the severity of symptoms is not always related due to the extent of the disease, making early diagnosis difficult and contributing to delays in the onset of treatment. treatment. Furthermore, studies indicate that therapeutic approaches vary according to the stage. endometriosis and women's reproductive desires, including medical and surgical treatment. and assisted reproductive techniques, such as in vitro fertilization, which are proving to be an alternative relevant in cases of associated infertility.

### **FINAL CONSIDERATIONS**

In summary, endometriosis is a complex gynecological condition. high clinical relevance, with significant repercussions on reproductive health and quality of life.



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The lives of women of childbearing age. Analysis of the literature shows that late diagnosis and...

Disease progression can intensify the impacts on fertility, making it essential to...

Early recognition of signs and symptoms and the adoption of individualized therapeutic strategies.

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