Fatigue is a common but underestimated symptom of endometriosis

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Fatigue is a common but underestimated symptom of endometriosis, according to findings from an international study of over 1100 women, published today in Human Reproduction, one of the world's leading reproductive medicine journals.

The study found that the prevalence of fatigue was more than doubled in women diagnosed with endometriosis compared to those who were unaffected by the condition, and it remained significant after the results were adjusted for other factors that might play a role in fatigue, such as pain, insomnia, occupational stress, depression, BMI and motherhood.

"These findings suggest that endometriosis has an effect on fatigue that is independent of other factors and that cannot be attributed to symptoms of the disease," said Professor Brigitte Leeners, deputy head of the Department of Reproductive Endocrinology at the University Hospital Zurich, Switzerland, who led the research.

"Although chronic fatigue is known to be one of the most debilitating symptoms of endometriosis, it is not widely discussed and few large studies have investigated it. We believe that in order to improve the quality of life for women with this condition, investigating and addressing fatigue should become a routine part of medical care, and doctors should investigate and address this problem when they are discussing with their patients the best ways to manage and treat the disease. It would also help these women if steps were taken to reduce insomnia, pain, depression and occupational stress."
Endometriosis is a condition in which the endometrial cells that form the inside of the womb also grow in other areas of the pelvic region, such as the ovaries and the abdominal cavity. The main symptoms are pain and infertility, although not all women will have these symptoms. It is not known what causes it, but it is a common gynaecological disease with a global prevalence of between 6-10%. It can be treated with drugs, such as anti-inflammatories and hormone therapy, and with surgery.

The researchers recruited 1120 women, 560 with endometriosis matched with 560 without it, from hospitals and private practices in Switzerland, Germany and Austria between 2010 and 2016. The women completed a questionnaire that asked about various factors relating to quality of life and endometriosis, as well as medical and family histories, lifestyle and mental disorders. Fatigue and insomnia were categorised into five different levels ranging from 1 (never) to 5 (very often).

They found that 50.7% of women diagnosed with endometriosis suffered from frequent fatigue compared to 22.4% of women without the condition. Fatigue with endometriosis was also associated with a more than seven-fold increase in insomnia, a four-fold increase in depression, a two-fold increase in pain and a nearly 1.5-fold increase in occupational stress. Age, time since first diagnosis and the stage of the disease were not linked to fatigue.

The researchers say that a possible reason why endometriosis could cause fatigue, independently of the other factors, is that the endometrial lesions may be causing inflammation that activates the immune system. Proteins called cytokines that are involved in cell signalling when the immune system is activated have been shown to play a role in fatigue symptoms. Chronic exposure to high stress can result in adrenal fatigue, and this could be an additional possible explanation.

Limitations of the study include the fact that answers to the
questionnaires are subjective and at risk of bias from failure to accurately recall experiences in the past six months, and the fact that the researchers did not have information on the exact medication taken during the relevant period.

**Are women who suffered child abuse more likely to develop endometriosis?**

In a second study, also led by Professor Leeners, the researchers found that a history of childhood sexual abuse, emotional abuse and neglect and "inconsistency experiences" was associated with an increased likelihood of endometriosis in adulthood.

A total of 421 women diagnosed with endometriosis were compared with the same number without it. They were recruited from hospital and medical practices in Germany, Switzerland and Austria. They completed a questionnaire that asked about physical, sexual and emotional abuse, emotional and physical neglect, and "inconsistency experiences", which relate to a lack of perception by parents of a child's concerns, as well as aggressive or unpredictable behaviour that might lead to a child feeling unsafe or fearing the family might disintegrate.

Women with endometriosis were significantly more likely than the women without the condition to report a history of sexual abuse (20% versus 14%), emotional abuse (44% versus 28%), emotional neglect (50% versus 42%) and inconsistency experiences (53% versus 41%). There were no statistically significant differences for physical abuse or neglect.

"This is one of the largest studies to investigate the links between childhood experiences and development of endometriosis," said Professor Leeners. "However, the effect sizes are relatively small and we were surprised that there didn't appear to be a link with physical abuse or
neglect. We have no clear explanation for this, and larger studies should investigate further to confirm our findings."

She said that she was prompted to carry out the study because of her previous research into sexual abuse and because an increasing number of diseases were beginning to be linked to the environment in which a child grows up, such as diabetes, obesity, asthma and heart disease.

"At present, doctors do not routinely ask women with endometriosis about their childhood experiences. As previous studies have estimated that approximately 20% of children suffer sexual abuse, between 25% and 50% suffer physical abuse, and between 12% to 48% suffer emotional abuse, our findings suggest that doctors should investigate these experiences when taking a patient's history so that women can receive appropriate treatment as early as possible. This might help to prevent other chronic diseases and mental health problems from developing," she concluded.


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