



# Obesity Elevates the Risk of Type 2 Diabetes in Women with PCOS

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## Introduction

Our findings imply that not only estrogen withdrawal but also sleep disruptions during menopause may lead to alterations in a woman's biology that may predispose midlife women to weight gain, stated a researcher from Brigham and Women's Hospital in Boston. Assisting women to sleep well after menopause may thereby lessen their odds of gaining weight, lowering their risk of diabetes and other connected disorders.

Obesity rates rise in women around menopause, according to another researcher. The loss of the female hormone estrogen is assumed to be the cause of menopause-related weight gain. However, since all women stop manufacturing estrogen during menopause, and only around half of women gain weight, estrogen is unlikely to be the main contributing factor.

Another typical symptom of menopause, which affects roughly half of all women, is sleep disturbance, which has been related to changes in metabolism that may raise the risk of weight gain.

The researchers evaluated 21 healthy pre-menopausal women to better understand the significance of sleep disorders and hormonal changes in menopausal weight gain. They investigated the impact of poor sleep on the body's fat utilization using an experimental model that mimicked the sleep disturbances encountered after menopause.

Two nights of uninterrupted sleep were followed by three nights of interrupted sleep, during which they were awoken by an alarm every 15 minutes for two minutes each time. The researchers subsequently evaluated a sample of nine subjects in the same sleep disruption technique after they were given a medication called leuprolide, which temporarily lowered estrogen to menopause-like levels.

After three nights of disrupted sleep, the rate at which the women's bodies burned fat was significantly reduced as compared to a typical night's sleep. When estrogen was reduced, a comparable drop in fat utilization was observed, even during normal sleep. Low estrogen combined with sleep disruption lowered fat utilization as well, but the effect was not as big as either exposure on their own.

According to researchers, sleep interruptions reduce fat utilization in addition to estrogen withdrawal. This may make fat storage and consequent weight gain more likely after menopause.

## Lifestyle Changes May up Fertility for Obese, Infertile Women

The study, which was presented electronically at ENDO 2021, found that the Fit-For-Fertility (FFF) lifestyle intervention offers a cost-effective alternative to the traditional standard of care for women seeking fertility treatments who are obese.

Our research suggests that the FFF programme can greatly improve pregnancy rates, particularly spontaneous conception rates when no fertility treatments are needed, as well as live-birth rates.

According to the study, lifestyle adjustments and a moderate weight loss of 5% to 10% of a woman's baseline weight have been demonstrated to increase the chances of a pregnancy in women with obesity and infertility.

The researchers gathered 130 women who were undergoing reproductive treatment at a clinic and separated them into two groups at random.

The Fit-For-Fertility programme was available to the first group alone for the first six months of their participation, and then in combination with fertility treatments if no pregnancy happened after that time.

Every six weeks, participants had individual sessions with a dietitian and a kinesiologist. Women in the FFF group were also required to attend at least one of the 12 group sessions, which included a 45-minute workshop on nutrition, lifestyle changes, and lifestyle habits, followed by a 45-minute initiation to various types of physical activity, such as walking, circuit training, step workout, and others.

Women in the second group, the control group, had immediate access to fertility treatments but did not participate in the FFF programme.

The FFF programme resulted in a 14.2% difference in the live-birth rate among the 108 women who completed at least six months of the study or became pregnant during the first six months (51 per cent for the FFF group and 36.8 per cent for the control group).

In the treatment group, the spontaneous pregnancy rate (pregnancy without any fertility treatments) was 33.3 percent, compared to 12.3 percent in the control group.

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