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# Weight Loss Does Not Improve Infertility Treatment Outcomes

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Obese, infertile women who participate in a 6-month structured weight loss program before infertility treatment are no more likely to conceive and deliver a healthy infant than women who have prompt infertility treatment, according to the results of a multicenter, randomized controlled trial.

Meike A. Q. Mutsaerts, MD, PhD, from the Department of Obstetrics and Gynecology and the Department of General Practice, University Medical Center Groningen, University of Groningen, the Netherlands, and colleagues report their findings in an article published in the May 19 issue of the *New England Journal of Medicine*.

"This is a very well done, interesting study. It addresses an important issue we face daily when counseling a patient trying to conceive [and] struggling with weight issues," Carolyn Alexander, MD, a fertility specialist at Southern California Reproductive Center, Beverly Hills, told *Medscape Medical News*.

The study included infertile women aged 18 to 39 years with a body mass index of 29 kg/m$^2$ or higher. The study excluded women with severe endometriosis, premature ovarian failure, or endocrinopathy and women eligible for donor insemination because of azoospermia.

The researchers randomly assigned the women in a 1:1 ratio to receive a 6-month structured lifestyle intervention with the goal of weight loss of 5% to 10% of body weight before 18 months of infertility treatment (intervention group; n = 289) or prompt infertility treatment for 24 months (control group; n = 285).

During the 24 months after randomization, the frequency of term vaginal births of healthy singletons, which was the primary outcome measure, was significantly lower in the lifestyle intervention group (27.1%; n = 76) compared with the control group (35.2%; n = 100) (rate ratio in the intervention group, 0.77; 95% confidence interval, 0.60 - 0.99). Rates of live births during the same period had a similar pattern.

When the researchers included data from pregnancies that were conceived within 24 months after randomization but that ended after that period, the rates of term

vaginal births of healthy singletons and the rates of live births did not differ significantly between the groups.

"This study is slightly surprising, in that it would seem that an intervention to help women get a more ideal body weight would help time to conception," Dr Alexander said.

**Secondary Outcomes**

Prespecified secondary outcomes included change in weight, waist circumference, and blood pressure during the first 6 months after randomization. Other secondary outcomes were ongoing pregnancy, clinical pregnancy, and fetal, newborn, and maternal medical status.

Sixty-three women (21.8%) discontinued the intervention program after a median of 2.8 months (interquartile range [IQR], 14 days - 3.9 months). After 6 months, the median ± weight loss was 4.4 ± 5.8 kg in 236 women in the intervention group and 1.1 ± 4.3 kg in 128 women in the control group ($P < .001$). A total of 89 (37.7%) of the women in the intervention group, but none of those in the control group, lost 5% or more of their body weight during the first 6 months.

Rates of ongoing pregnancy and clinical pregnancy did not differ significantly between the groups.

The median time to pregnancy that resulted in a term vaginal birth of a healthy singleton was 7.2 months in the intervention group (IQR, 2.6 - 12.0) compared with 5.2 months in the control group (IQR, 2.4 - 10.1; $P = .06$).

The median times to pregnancy that resulted in a live birth were 8.8 months (IQR, 3.5 - 13.2) and 5.2 months (IQR, 2.6 - 9.4) in the intervention and control groups, respectively ($P = .04$).

**Healthy Lifestyle Important**

"A more intensive program or one involving better strategies to enhance adherence might have resulted in more weight loss, but it is unknown whether more weight loss would have led to a higher birth rate than the rate in our trial," the authors write. "Moreover, excessive weight loss in a short period of time was discouraged, since such a reduction in weight has been reported to have a negative effect on the outcome of assisted reproductive technology and to be associated with an increased risk of adverse pregnancy outcomes such as low birth weight or miscarriage."

Having a healthy lifestyle during the periconception period is important, Dr Alexander told *Medscape Medical News*. "After evaluating for thyroid issues, insulin resistance, we generally review proper nutrition, recommend increasing exercise, especially cardiovascular exercise," she said.

"When trying to conceive, I generally recommend the Mediterranean diet and decreasing processed foods, soda, caffeine, and alcohol," Dr Alexander added.

**Older Women May Need a Different Strategy**

Older women may wish to undergo fertility treatment while they are losing weight, Dr Alexander said.

"It is challenging to counsel a patient to postpone childbearing when egg quality may decrease with age," she explained. "In a subset of women, it most likely is helpful to recommend nutrition counseling and weight loss first, but depending on age [and] ovarian reserve testing, it may be more prudent to proceed with fertility treatment options to help her conceive sooner."

She added, "Clinicians should recognize the age of the inclusion criteria 18 to 39. The women over 35 may be counseled to adjust their eating habits and have regular exercise regimens while they pursue fertility treatments in order to improve time to conception."

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