

Mediterranean diet may help women receiving IVF to achieve successful pregnancies

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New research has found that women who follow a "Mediterranean" diet in the six months before assisted reproductive treatment have a significantly better chance of becoming pregnant and giving birth to a live baby than women who did not.

Researchers asked [women](#) about their diet before they underwent in vitro fertilisation (IVF) treatment and found that those who ate more fresh vegetables, fruit, whole grains, legumes, fish and olive oil, and less red meat, had a 65-68% greater likelihood of achieving a successful pregnancy and birth compared to women with the lowest adherence to the Mediterranean-style diet.

The study, which is published today in *Human Reproduction*, one of the world's leading reproductive medicine journals, focused on dietary patterns rather than individual nutrients, foods or food groups. It assessed the diet of 244 women via a food frequency questionnaire when they enrolled at an Assisted Conception Unity in Athens,

Greece, for their first IVF treatment. The questionnaire asked them about how often they ate certain groups of food in the preceding six months; the results gave the women a MedDiet Score, which ranged from 0-55 with higher scores indicating greater adherence to the Mediterranean diet. The women were aged between 22-41 and were non-obese (body mass index of less than 30 kg/m²).

Researchers, led by Associate Professor Nikos Yiannakouris at the Department of Nutrition and Dietetics at Harokopio University of Athens, divided the women into three groups depending on their MedDiet Score: the first group had scores between 18 to 30, the second scored between 31-35 and the third group scored between 36 to 47.

They found that compared to the 86 women in the highest scoring group, the 79 women in the lowest scoring group had significantly lower rates of pregnancies (29% versus 50%) and [live births](#) (26.6% versus 48.8%). When the researchers looked at women younger than 35 years old, they found that every five-point improvement in the MedDiet Score was linked with an approximately 2.7 times higher likelihood of achieving a successful pregnancy and live birth.

Overall, 229 women (93.9%) had at least one embryo transferred to their wombs; 138 (56%) had a successful implantation; 104 (42.6%) achieved a clinical pregnancy (one that can be confirmed by ultrasound); and 99 (40.5%) gave birth to a live baby.

"The important message from our study is that women attempting fertility should be encouraged to eat a healthy diet, such as the Mediterranean diet, because greater adherence to this healthy dietary pattern may help increase the chances of

successful pregnancy and delivering a live baby," said Prof Yiannakouris.

"It should be noted that when it comes to conceiving a baby, diet and lifestyle are just as important for men as for women. Previous work from our research group among the male partners of our study has suggested that adherence to the Mediterranean diet may also help improve semen quality. Taken together, these findings highlight the importance of dietary influences and diet quality on fertility, and support a favourable role for the Mediterranean diet on assisted reproduction performance."

The researchers did not find any association between diet and the chances of successful pregnancies and live births among women aged 35 and older. However, they believe this is because hormonal changes, fewer available eggs and other changes that women experience as they get older could mask the influences of environmental factors such as diet.

Prof Yiannakouris said: "The fact that in our study a favourable effect of the Mediterranean diet was evident only among women younger than 35 years doesn't mean that eating a [healthy diet](#) is not as important for older women. Our results suggest the need for additional research not only among older women, but also among women with obesity problems and in women conceiving naturally."

The researchers say that their findings cannot be generalised to all women trying to become pregnant, nor to obese women or women attending other infertility clinics around the world. They point out that their findings show that a Mediterranean diet is only linked to improved IVF outcomes and they cannot show that it causes the improved chances of pregnancy and birth.

"Our findings provide support that couples undergoing infertility treatment may benefit by adhering to the Mediterranean diet (a diet widely accepted for its positive effects on human health); however, whether or not advice to adhere more closely to this traditional diet would improve assisted reproduction performance needs to be addressed in future intervention studies. Moreover,

our results should be explored and confirmed in other populations within and beyond the Mediterranean region. Clearly more research and intervention studies are needed to elucidate the role of [diet](#) quality in assisted reproductive performance, to reveal underlying mechanisms, and for developing nutritional guidelines for women to further improve fertility treatment and success rates.

"As more couples worldwide face infertility problems and seek access to assisted reproduction technologies to conceive, it is essential for them to receive counselling on the importance of dietary influences and of adopting a healthy lifestyle," concluded Prof Yiannakouris.

More information: Dimitrios Karayiannis et al, Adherence to the Mediterranean diet and IVF success rate among non-obese women attempting fertility, *Human Reproduction* (2018). [DOI: 10.1093/humrep/dey003](https://doi.org/10.1093/humrep/dey003)

Dimitrios Karayiannis et al. Association between adherence to the Mediterranean diet and semen quality parameters in male partners of couples attempting fertility, *Human Reproduction* (2016). [DOI: 10.1093/humrep/dew288](https://doi.org/10.1093/humrep/dew288)

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