

# Stress and infertility linked in study

## Chances of infertility almost double when women are stressed

By Dr. Meera Dalal, [CBC News](#) Posted: Mar 26, 2014 2:10 PM ET Last Updated: Mar 26, 2014 2:10 PM ET

For years, doctors have been telling women who want to get pregnant to "Let it happen" and not stress about it. But recently, a new study published in the journal *Human Reproduction* measured hormones and enzymes that are biomarkers of stress to show that stress can almost double your chance of infertility.

The study tracked 501 women aged 18-40 years in Michigan and Texas for 12 months after they stopped contraception in order to become pregnant. Saliva samples were collected from the women on day one of their enrolment, first thing in the morning and at various time during the day (to account for daily variations.) Samples were collected again following their first study-observed menstrual period.

The samples were analyzed for cortisol and alpha-amylase, two biomarkers of stress. High levels of alpha-amylase, a breakdown product of epinephrine, were strongly linked to decreased "fecundity," or the odds of getting pregnant each month.

- Those with the highest levels of alpha-amylase showed a two-fold increase reduction in fecundity.
- Women in the middle one-third category of alpha-amylase showed a 29 per cent decline.
- The lowest one-third showed a 7 per cent decline.

Women had similar times to pregnancy until around cycle five. Of the 401 women who completed the study, 347 (87 per cent) became pregnant and 54 (13 per cent) did not.

Cortisol fluctuation was not shown to affect infertility, which study author Courtney Lynch at Ohio State University in Columbus and colleagues suggest is because this hormone can vary with multiple factors other than stress.

According to Dr. Thomas Hannam, founder of the Hannam Fertility Clinic in Toronto and an obstetrician-gynecologist who specializes in reproduction, fecundity is high when women start trying to conceive and gradually declines over time as they are unsuccessful.

"In the first month of trying, chances of conception are 30-55 per cent. Most people get pregnant in the first three months," Hannam says. "By six months, the chances become 5 per cent per month, then down to 2 per cent per month at one year."

Clinically, infertility is defined as an inability to conceive after 12 months of trying.

According to fertility experts, research on stress and infertility has traditionally been difficult because it is hard to account for "directionality;" women who are having trouble conceiving are going to be more stressed, and it is hard to know whether the stress came first or was the by-product.

Lynch and colleagues address this and explain that "the women had no known fertility problems when enrolled in the study and they had just started trying to conceive, suggesting that everyday stress, and not the specific stress associated with trying to become pregnant, affected their fertility."

In addition, Hannam says that most infertility studies only look at women who have fertility issues, making the results difficult to extrapolate to the general population.

"The nice thing about this study is that it includes both women who ended up conceiving and those who had difficulty."

## **What now?**

Dr. Fay Weisberg, assistant professor in the department of obstetrics and gynecology at the University of Toronto and a reproduction specialist at First Steps Fertility in Toronto is not surprised by the results.

"Doctors in the 60's used to tell women who were have trouble conceiving to go on vacation. And sure enough, it worked for most people and they'd come back pregnant!"

Stress has been linked to everything from reflux to heart disease and infertility. But "not stressing" is easier said than done.

"Women who come in after one year of trying are already incredibly stressed," Hannam says. "There's a huge amount of guilt and blame associated with fertility, and it may not be helpful to keep reinforcing that this stress is making their infertility worse."

While stress might not be the whole answer to why some women struggle with fertility and others do not, Weisberg believes it is at least something we can try to control.

"I always encourage stress reduction. Unfortunately, we can't tell people how to relax. Every women is going to have to find her own solutions. Whether it's gentle exercise, or yoga, or acupuncture, it's always helpful to work it into your routine."