Health and Fitness News from the Boston Globe

Best Advice for Women Trying to Get Pregnant? Just relax!

A new study published in the Journal of Women's Health suggests a direct correlation between stress levels and difficulties in conceiving. Women between the ages of 18 and 40 with no previous fertility problems were tested for the presence of the stress hormone cortisol and the enzyme alpha-amylase across a six month period. High levels of cortisol (a typical bench mark for stress levels) did not predict fertility problems, but higher levels of alpha-amylase did. In fact, women with higher levels of the enzyme were found to be 12% less likely to become pregnant. Whether the stress or the infertility problems come first is not entirely clear. It is a bit of a classic chicken and egg problem, but certainly it can't hurt if you find yourself feeling stressed to just...take a deep breath.

Cycle of stress

http://www.boston.com/news/health/articles/2010/09/13/cycle_of_stress/?page=1

Getting pregnant, having monster PMS - how the S factor may play a part

By Stephen Smith | September 13, 2010

It’s a story that rings familiar: A couple tries and tries — frustration surging — to have a baby, finally deciding to adopt. Then, lo and behold, the woman receives the news that once proved elusive: You’re pregnant. Maybe, armchair psychiatrists have long opined, it has something to do with a cloud of stress dissipating.

Or consider women who swear that the fatigue, bloat, and irritability that herald a menstrual period are magnified when life’s anxieties rage with particular ferocity.

For generations, such anecdotes existed largely in the realm of accepted wisdom, evoking dismissive entreaties to women to “just relax.’’ And studies of reproductive health sometimes consisted of little more than asking infertile couples to jot down their levels of stress. “We thought there has to be something better than that,’’ said Germaine Buck Louis, a top scientist at the National Institute of Child Health & Human Development.

Now, researchers at her agency are opening a wider window onto the fraught relationship between stress and women’s reproductive health — research that could one day lead to use of saliva tests for stress and better methods for muting it.

Two studies released last month by federal scientists offer tantalizing clues. One suggests that elevated levels of a stress-related enzyme might predict whether a woman will have difficulty getting pregnant. The other shows that a wave of stress in the days before a woman’s period may act like an accelerant for premenstrual symptoms.

It’ s hardly settled science, but women’ s health specialists said the research bolsters their advice to patients that while it’ s not a sure thing that reducing stress will help, it certainly can’ t hurt.

When Dr. James Goldfarb, director of infertility services at the Cleveland Clinic, encounters couples struggling to have children, he acknowledges their plight. “We tell them, ‘To think that this isn’ t going to be stressful to you is like someone hitting themselves on the thumb with a hammer and saying this isn’ t going to hurt,’ ’ ’ said Goldfarb, who was not involved with the federal research.

“This new research is very exciting,’ ’ Goldfarb said, “but like many things we see in medicine, it’ s preliminary. But if you can identify the mechanism that causes the problem, you have the potential of trying to treat that mechanism.’ ’

In the study that examined pregnancy and stress, researchers used deceptively simple tools: cotton balls, saliva, fertility monitors, and daily diaries documenting sexual activity, menstruation, and behaviors such as smoking and drinking. British women who were trying to have babies — 274 completed the study — collected the samples and maintained the diaries.

Researchers evaluated the saliva-soaked cotton balls for the presence of two substances associated with stress, known as alpha-amylase and cortisol. The women, who were 18 to 40 years old and did not have established fertility problems, were followed for six months, unless they became pregnant sooner.

The scientists trained their interest on the days each month when the women were primed to conceive, and what they found came as something of a surprise: High levels of cortisol, long-recognized for its relationship with stress, did not seem to predict difficulty conceiving, while elevated rates of alpha-amylase did.

Alpha-amylase is an enzyme secreted by a gland in the mouth. It helps process starch, but scientists know that it also can act as a bellwether for physical or psychological stress related to the fight-or-flight response.

“It’ s like a real-time measure of stress,’ ’ said Louis, lead author of the study that appears online in the journal Fertility and Sterility.

The researchers discovered that women with the highest levels of the enzyme were roughly 12 percent less likely to become pregnant each month than women with the lowest concentrations of alpha-amylase. Smoking, by comparison, is estimated to reduce pregnancy prospects by about 20 percent, Louis said.

Could something else explain the difference in pregnancy rates, the scientists wondered. An obvious factor to check: frequency of sex. But when they looked, the researchers found there was no significant difference among the women most and least likely to become pregnant.

There was one pivotal question that could not be answered by the study, which the authors said they believe is the first to identify a link between high levels of a stress-related substance and reduced pregnancy rates during the fertility window.

"I always think of it as a chicken or an egg thing: Is stress the underlying problem, or is there some underlying factor that may change an amylase level and then also impact perceived stress?" said Dr. Elizabeth Ginsburg, medical director of the assisted reproductive technologies program at Brigham and Women's Hospital.

Regardless of the answer to that question, researchers know there's a biologically plausible reason to think that alpha-amylase may be more than simply a marker of a stressful life. It may actually hint at an underlying cause of fertility problems.

Alpha-amylase is churned up when the body's autonomic nervous system produces another stress-related compound called catecholamine. And studies have shown that the release of catecholamine can reduce blood flow and, in turn, slow the movement of a fertilized egg through a fallopian tube.

"The question is, are there ways of modifying that through medication or, more likely, through behavioral therapy that could help a person improve that particular aspect of their health," said Dr. Carey York-Best, a women's health specialist at Mass General West

That same question could be applied to premenstrual symptoms.

A second team of researchers, including one from the University of Massachusetts, asked 259 women between 18 and 44 to complete questionnaires on stress, starting at least 11 days before a menstrual period. Most of the women charted their stress and symptoms for two months.

The findings were striking: Women who reported being engulfed with stress two weeks before their period were two to four times more likely to report moderate to severe symptoms than women with low stress. And if a woman was stressed during both months covered in the study, she was 25 times more prone to significant symptoms.

Still, like the study of pregnancy and stress, the premenstrual-symptom research left questions unanswered, foremost among them: Did the mere anticipation of symptoms fuel stress, which begat even more stress?

An author of the study, Mary Hediger, said the findings should send a signal that attempts to control premenstrual symptoms need to begin days or even weeks before the arrival of a woman's period. And Hediger said the findings, published in the Journal of Women's Health, should prompt women and their doctors to reconsider the reflexive use of pills to tame premenstrual symptoms.

"There are too many women that are being prescribed a medication like antidepressants or antianxiety drugs that do have side effects," said Hediger, of the National Institute of Child Health & Human Development. "We're hoping the message people will pick up on is that before you go right to medication, try some other relaxation techniques."

That’ s something women are already doing at Massachusetts General Hospital.
At the hospital’ s Benson-Henry Institute for Mind Body Medicine, women learn about relaxation techniques that include meditation, yoga, breathing, and exercises to declutter a frantic mind.
Research has shown that practicing relaxation techniques can reduce premenstrual symptoms and that group therapy may enhance chances of infertile women becoming pregnant. The Mass. General institute is researching whether group mind-body sessions can improve physical and psychological outcomes for women with infertility.
There is one dictum those women will not hear: Just relax.
“That’ s the worst thing you can say to someone going through this process,’ ’ said Leslee Kagan, women’ s health director at the Mass. General mind-body institute. “It’ s about teaching people skills they can use to buffer stress and tip the balance in their favor.’ ’
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