

Underactive thyroid within normal range may affect woman's ability to conceive

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New research suggests that a slightly underactive thyroid may affect a woman's ability to become pregnant—even when the gland is functioning at the low end of the normal range, according to a study published in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism*.

The study found women who have unexplained [infertility](#) were nearly twice as likely to have higher levels of a hormone that stimulates the [thyroid gland](#) than women who did not conceive due to known issues with their male partner's sperm count. Thyroid-stimulating hormone (TSH) is produced by the pituitary gland at the base of the brain and tells the [thyroid gland](#) to produce more hormones when needed. Elevated TSH levels can be a sign that the thyroid [gland](#) is underactive.

Unexplained infertility occurs when couples are unable to get pregnant despite months of trying and a medical evaluation shows no reason for their infertility. About 10 percent of American women between the ages of 15 and 44 have difficulty becoming or staying pregnant, according to the Office of Women's Health in the U.S. Department of Health and Human Services. Between 10 percent and 30 percent of affected couples have unexplained infertility, according to the JCEM study.

"When couples who are ready to start a family are unable to conceive despite extensive planning, multiple doctor's visits, and expensive treatments, it can be emotionally devastating," said the study's senior author, Pouneh K. Fazeli, M.D., M.P.H., of Massachusetts General Hospital and Harvard Medical School in Boston, Mass. "Since our study shows that women with unexplained infertility have higher TSH levels compared to women experiencing infertility due to a known cause, more research is needed to determine whether treating these higher TSH levels with thyroid hormone can improve their chances of getting pregnant."

As part of the cross-sectional study, the researchers analyzed data from female patients between the ages of 18-39 years of age who were diagnosed with infertility at Partners HealthCare System hospitals in Boston, Mass., between 2000 and 2012. Only women with regular menstrual cycles and a normal fertility evaluation were included. The researchers looked at TSH levels taken as part of the fertility evaluation from 187 women with unexplained infertility and 52 whose partners had severe male factor infertility.

The researchers found that women with unexplained infertility had significantly higher TSH levels than women with infertility due to a known cause. Nearly twice as many women with unexplained infertility had a TSH greater than 2.5 mIU/L compared to women whose partners had male factor infertility.

"Since we now know from our [study](#) that there is an association between TSH levels at the high end of the normal range and unexplained infertility, it is possible that a high-normal TSH level may negatively impact [women](#) who are trying to get pregnant," Fazeli said. "This could open up new avenues for possible treatments. The next step will be to see if lowering TSH levels will help this group conceive."

More information: Tahereh Orouji Jokar et al, Higher TSH levels within the normal range are associated with unexplained infertility, *The Journal of Clinical Endocrinology & Metabolism* (2017). [DOI: 10.1210/jc.2017-02120](https://doi.org/10.1210/jc.2017-02120)

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