

Sperm of smoking dads can hurt child DNA

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BRADFORD, England, June 24 (UPI) -- BRADFORD, England, June 24 (UPI) -- Men who smoke before conception can damage the DNA of their offspring in the womb that may give him or her a higher risk of disease, British researchers say.

Diana Anderson of the School of Life Sciences at the University of Bradford in England, and colleagues found evidence showing why men should be urged to stop smoking before trying to conceive in the same way women have been urged to quit tobacco.

A fertile sperm cell takes about three months to fully develop; therefore men would ultimately need to quit smoking long before conception to avoid causing genetic problems, Anderson said.

Anderson and colleagues used DNA biomarkers to measure genetic changes in the paternal blood and semen around conception, as well as maternal and umbilical cord blood at delivery in families from two different European regions in central England and a Greek island.

Information regarding the lifestyle, environmental and occupational exposures of these families was taken from validated questionnaires. The combined analysis of exposures and DNA biomarkers was used to evaluate the role of exposures before conception and during pregnancy in the causation of genetic changes in the offspring.

"These transmitted genetic changes may raise the risk of developing cancer in childhood, particularly leukemia and other genetic diseases," Anderson said in a statement. "We hope that this knowledge will urge men to cease smoking before trying to conceive."

The findings were published in the FASEB Journal.

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