

Why caffeine can reduce fertility in women

May 26 2011

Caffeine reduces muscle activity in the Fallopian tubes that carry eggs from a woman's ovaries to her womb. "Our experiments were conducted in mice, but this finding goes a long way towards explaining why drinking caffeinated drinks can reduce a woman's chance of becoming pregnant," says Professor Sean Ward from the University of Nevada School of Medicine, Reno, USA. Ward's study is published today in the *British Journal of Pharmacology*.

Human eggs are microscopically small, but need to travel to a woman's womb if she is going to have a successful pregnancy. Although the process is essential for a successful pregnancy, scientists know little about how eggs move through the muscular Fallopian tubes. It was generally assumed that tiny hair-like projections, called cilia, in the lining of the tubes, waft eggs along assisted by muscle contractions in the tube walls.

By studying tubes from mice, Professor Ward and his team discovered that caffeine stops the actions of specialised pacemaker cells in the wall of the tubes. These cells coordinate tube contractions so that when they are inhibited, eggs can't move down the tubes. In fact these muscle contractions play a bigger role than the beating cilia in moving the egg towards the womb. "This provides an intriguing explanation as to why women with high [caffeine consumption](#) often take longer to conceive than women who do not consume caffeine," says Professor Ward.

Discovering the link between caffeine consumption and reduced fertility has benefits. "As well as potentially helping women who are finding it

difficult to get pregnant, a better understanding of the way Fallopian tubes work will help doctors treat pelvic inflammation and sexually-transmitted disease more successfully," says Professor Ward. It could also increase our understanding of what causes ectopic pregnancy, an extremely painful and potentially life-threatening situation in which embryos get stuck and start developing inside a woman's Fallopian tube.

Provided by Wiley

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