PRESS RELEASE

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Smoking while breastfeeding puts children at risk of obesity later in life

Children of mothers who smoke while breast feeding are more likely to develop serious health problems such as obesity, hypothyroidism, diabetes and cardiovascular disease later in life, according to new research done in rats. Scientists are calling for better information for new mothers on the long-term effects of nicotine exposure on their children's health.

The study, published today in the Society for Endocrinology's *Journal of Endocrinology,* was carried out on rats that were fitted with nicotine-producing implants to model the effect of smoking during breastfeeding. The rats nursed their offspring as normal and the health of the offspring was monitored into adulthood. The adult offspring developed obesity and hypothyroidism while rats raised by mothers lacking the nicotine implant remained healthy.

Previous research has already shown a link between obesity and nicotine exposure during breastfeeding in humans. This study was carried out on rats so that the link could be studied at the molecular level. The research team, based at the State University of Rio de Janeiro, looked further into the way in which nicotine has such long-lasting effects on the health of offspring. They found that the nicotine exposure caused decreased thyroid hormone levels and resistance to the hormone leptin, which tells us when it's time to stop eating. It is thought that smoking in human mothers affects the health of children in the same way.

Dr Patricia Lisboa, who led the study said, "We have shown that even a small period of nicotine exposure during breastfeeding can permanently damage the future health of a child. Future work on this project will investigate the addiction potential of nicotine and the neurological effects of smoking while breastfeeding on offspring."

She is lobbying for changes in advice to new mothers stating that "smoking during breastfeeding can be as dangerous to offspring as smoking during pregnancy".

--------ENDS-------

Notes for editors:

1. For further information about the study please contact:

   Dr Egberto G. Moura, MD. PhD
   State University of Rio de Janeiro
   Avenida Boulevard 28 de Stembro 87, fundos PAPC5o.
   Tel: +55 (0) 2128 688 334
   Email: egbertomoura@globo.com

2. The study "Effects of maternal nicotine exposure on thyroid hormone metabolism and function in adult rat" will be published in the *Journal of Endocrinology* on 4 February 2015.

3. For press enquiries, please contact the Society for Endocrinology press office:

   Dr Fiona Docherty
   Communications Executive
   Tel: +44 (0)1454 642 252
   Email: fiona.docherty@endocrinology.org

   Omar Jamshed
   Communications Executive
   Tel: +44 (0)1454 642 206
   Email: omar.jamshed@endocrinology.org

4. *The Journal of Endocrinology* is published by Bioscientifica, an innovative and agile publisher. Bioscientifica collaborates with learned societies worldwide to develop new and existing quality products that meet the ever-changing needs of the biomedical community. Our publishing portfolio includes journals and online resources, including *Journal of Endocrinology*, *Endocrine Related Cancer*, *Endocrine Connections, Bone Abstracts* and our latest new product, *Endocrinology, Diabetes and Metabolism Case Reports*. Bioscientifica is a wholly-owned commercial subsidiary of the Society for Endocrinology.

5. The Society for Endocrinology is a UK-based membership organisation representing a global community of scientists, clinicians and nurses who work with hormones. Together we aim to improve public health by advancing endocrine education and research, and engaging wider audiences with the science of hormones www.endocrinology.org