Media Release

High Levels of Oestrogen in Utero May Impact Offspring's Fertility

17 March 2014

A study conducted at the University of Western Australia's (UWA) School of Women's and Infants' Health in association with the Women and Infants Research Foundation (WIRF), has found that higher levels of oestrogen in pregnant women, at the time of delivery, may have implications for the fertility of their offspring.

The study found that women with higher levels of oestrogen at the time of delivery produced male babies with a lower sperm count in adulthood. UWA Professor of Reproductive Medicine, Roger Hart, said "The effects of oestrogen on the offspring's reproductive organs during pregnancy could have an impact on the offspring's future fertility".

The study was conducted using data from the Raine Cohort of over 2500 participants, who've been followed for the last twenty years since life in utero at King Edward Memorial Hospital. The study is one of the largest pregnancy and childhood development datasets in the world and aims to identify relationships between events in utero, and in childhood, and health and disease later in life.

The study is now investigating potential environmental toxins which may have oestrogenic effects on the offspring when ingested by their pregnant mother. Professor Hart said "Two compounds of interest to us are Phthalates and Bisphenol Alpha (BPA), which are commonly found in everyday items such as some food wraps, water bottles, paint, PVC flooring, nappies, make-up and the lining of coffee cups".

"These substances are endocrine disrupting chemicals which can interfere with the action of hormones that regulate our daily internal environment and control our growth and development. These chemicals freely cross the placenta and may have oestrogenic effects on the offspring's reproductive organs", said Professor Hart.

Initial results from the study, which looked at the impact of higher levels of Phthalates and BPA in utero on the female offspring, indicated potentially an earlier average age of puberty, and also found the female offspring tended to have smaller ovaries. Subject to funding, the study's next objective is to investigate the impact of these substances in utero on the male offspring.

Professor Hart will be speaking about his research, which has been published in the Reproduction journal, at the Forever Project's Food Theatre evening at Perth Zoo on Thursday 27 March. The evening will celebrate fresh, local foods with a three course meal, celebrity chef Don Hancey and the Great Gardens team. Tickets are $90 per person or $500 for a table of six people, and can be purchased via the WIRF website; http://wirf.com.au/foodtheatre and part proceeds from the evening will contribute toward WIRF's research.

From the initial results of this study, the message to pregnant women is to be aware of potential toxins in their everyday environment. "We can't eliminate all environmental toxins, but it is possible to minimise our exposure to them, for example by using alternatives to plastic wrap and water bottles, such as ceramic, glass, stainless steel or Phthalate and BPA free plastic, and to buy fresh,

Media Release

unpackaged food ingredients to limit the intake of additional oestrogen for the offspring", Professor Hart said.

Nina Bone of Lathlain who is currently 24 weeks pregnant said she was interested to hear about Professor Hart's research. "As a mum to be I want to give my baby the best chance in life. If there are simple things I can do in my pregnancy such as changing my water bottle, then I might as well do them. However, there is so much advice out there for pregnant women these days I think you just have to do the best you can", said Nina.

Chris Ferreira, Director of the Forever Project, a West Australian business dedicated to empowering the community to work towards a sustainable and prosperous future, said "Professor Hart's research confirms the old saying of 'we are what we eat', and the importance of eating fresh, unprocessed foods which can impact not only our own health, but that of future generations. Research that can educate the community on choices they can make to improve the health of their children is so important, and we are proud to support WIRF's work".

Media contact: Sarah Cooper, 0416 228 722, sarah@wirf.com.au