Embargo: 10.30 hrs WEST (GMT + 1 hour), Monday 15 June 2015

This press release is in support of a presentation by Anne Lærke Spangmose Pedersen on Monday 15 June 2015 at the ESHRE annual meeting in Lisbon.

Conception by assisted reproduction is not associated with reduced academic performance in adolescence

Nationwide analysis of more than 8000 ART children finds no difference in educational test scores

Lisbon, 15 June 2015: The academic performance of children conceived by assisted reproduction techniques (ART) is no better or worse than that of spontaneously conceived children when assessed at the ninth grade of their school education.(1) Similarly, ART singletons and ART twins also had comparable test scores, suggesting, say the investigators, that "the higher obstetric risk" identified in ART pregnancies - and particularly in twins - "is not associated with poorer academic performance in adolescence".(2)

"These findings are very important for infertile patients," they add.

Details of the study are reported today at the Annual Meeting of ESHRE by Anne Lærke Spangmose Pedersen, a medical student in the fertility clinic of Copenhagen University Hospital Hvidovre, Denmark. She noted that so far only few studies have explored IQ in ART children, and no previous studies have included ninth grade test scores in a complete national cohort of 15-16-year-old adolescents all conceived by ART.

This, however, was a substantial national study involving every child conceived by ART and born in Denmark between 1995 and 2000, a total of 8251 children born as 4991 singletons and 3260 twins. These children were then compared to two control populations of children - the first comprising all twins born in Denmark during the same period (a total of 10,833) and a randomly selected group of spontaneously conceived singletons (total 10.052).
The study effectively compared the academic performance of all four groups according to results of a general test of academic performance which all ninth grade students in Denmark (at age 15-16 years) complete. The test grades academic performance from -3 to +12, with average scores of 7. The system of national records and registries in Denmark with demographic and epidemiological data make such studies possible.

Initial results did show some discrepancies between the groups, but following statistical adjustments maternal age, birth weight, gestational age and social status, the differences disappeared. For example, ART singletons achieved a higher mean test score than spontaneously conceived singletons (7.71 and 6.75 respectively, p<0.001), but this difference did not persist after the statistical adjustments.

"We were pleased to see the results," said Ms Pedersen. "The higher rate of twins and preterm birth in ART singletons might have given rise to lower academic test scores. But our results now confirm smaller studies which have shown no difference in IQ between ART and non-ART children. All our four study groups had test scores very close to the average, which is reassuring - and shows the high validity of the study."

With so many children in some countries now conceived by assisted reproduction (as many as 5% in Denmark), Ms Pedersen described the results as "reassuring" for both parents and IVF clinics. Any possible effect of prematurity in ART children, she said, seems to be removed over time.

She added that these results from a national cohort study are likely to be similar in other populations, although Denmark itself had a lower twin rate than many other countries between 1995 and 2000. And multiple pregnancies, she explained, remain a safety concern in ART.

"ART is still associated with a slightly increased risk of congenital malformations and prematurity," said Ms Pedersen, "and we should continue to survey our ART children, as new developments in technique - such as vitrification and blastocyst culture - are always being introduced. Any effect of these methods has not yet been ruled out. So it is of great importance that we accept the responsibility to find out."
In the meantime, however, Ms Pedersen said the results of this study in terms of academic development were sufficiently strong to have important public health implications, and "might finally persuade politicians and society as a whole that there is no reason for caution in future ART generations. Thus, we can continue to perform ART as a safe and sound method from the long-term child perspective."

**Abstract O-036, Monday 15 June 10.45 WEST**

**Academic performance in adolescent children at 9th grade of primary school born after assisted reproductive technology (ART) - a national controlled cohort study**

**Notes**

1. Ninth grade usually refers to the ninth year of education after kindergarten, with students usually aged around 15 years. Some educators stress the pivotal importance of this year in shaping future directions.
2. Several studies have suggested that obstetric outcomes in pregnancies after ART are worse than those seen after spontaneous conception, a trend usually attributed to the higher proportion of multiple pregnancies in ART (and as a result prematurity and low birthweight). However, there have been studies (though generally with conflicting results) showing an increased risk of preterm delivery and low birthweight even in singleton pregnancies conceived by ART.

* When obtaining outside comment, journalists are requested to ensure that their contacts are aware of the embargo on this release.

For further information on the details of this press release, contact:
Christine Bauquis at ESHRE
Mobile: +32 (0)499 25 80 46
Email: christine@eshre.eu