

Prof Tina Kold Jensen  
University of Southern Denmark  
Dept of Environmental Medicine  
Winsløwparken 17  
5000 Odense Denmark  
Email: tkjensenhealth.sdu.dk

### **Fertility treatment and reproductive health of male offspring**

Tina Kold Jensen\* (Department of Environmental Medicine, University of Southern Denmark, Odense, Denmark), Niels Jørgensen, Camilla Asklund, Elisabeth Carlsen, Mette Holm and Niels E. Skakkebæk (Department of Growth and Reproduction, Rigshospitalet, Copenhagen, Denmark).

Background and hypothesis: Little is known about the reproductive health of offspring after fertility treatment and we therefore studied the long term reproductive health among men conceived after treatment.

Methodology: In 2001–2005, the authors approached young Danish men attending a compulsory physical examination to determine their fitness for military service. A total of 1,925 men volunteered, delivered a semen sample, had a physical examination performed and a blood sample drawn, and responded to a questionnaire. Their mothers were questioned about whether they had received fertility treatment in order to conceive their sons.

Results: Forty-seven mothers reported having received fertility treatment to conceive the index subject. After control for confounders, men whose mothers had received fertility treatment to conceive them had a 46% lower sperm concentration (95% confidence interval (CI): -63, -20) and a 45% lower total sperm count (95% CI: -64, -16). They had a smaller testis size (-0.9 ml, 95% CI: -2.2, 0.4), fewer motile sperm (-4.0%, 95% CI: -8.0, -0.1), and fewer morphologically normal spermatozoa (-2.0%, 95% CI: -4.1, 0.0). They also had a lower serum testosterone level and free androgen index (results not statistically significant).

Implications: These findings should be viewed in light of the increasing use of fertility treatments. Although the cause of these findings is unknown, they raise concern about possible late effects of fertility treatment. Larger-scale studies of children born after fertility treatment should be performed.