



ORAL PRESENTATION

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Regular, moderate intensity maternal exercise reduces birth weight but increases the risk of later childhood adiposity

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From 8th APPEs Biennial Scientific Meeting
Darwin, Australia. 29 October – 1 November 2014

Aims

We have previously randomised primiparous mothers to either an exercise regime or normal activity between 20 and 36 weeks gestation. In this study we aimed to assess the long-term effects of exercise during pregnancy on growth parameters and body composition in the offspring over their first 6-8 years of life.

Methods

Of the initial 84 women and their offspring who participated in the RCT, follow-up data were available on 46 mothers (26 exercisers, 20 controls) and 46 children. At each follow-up visit (6 months, 1 year, 2 years, 4 years, 6-8 years) clinical assessment included measurement of mothers' and children's heights, weights, BMI, and waist circumference, as well as blood pressure. Body composition was assessed in both mothers and children by whole-body dual-energy X-ray absorptiometry (DXA) scans at 4-year and 7-year follow-up visits.

Results

There were no differences in anthropometry between exercise and control children in the first 2 years of life. In addition, at age 4 years there were no differences in height, BMI, percentage body fat, or waist circumference between the two groups. At a mean age of ~7.5 years, exercise and control children showed similar weight, height, BMI, and waist circumference, but the exercise group had more body fat (17.5 vs 16.0%, $P=0.02$) than controls. Over the course of follow-up there were no observed differences in anthropometry between exercise and control mothers.

Conclusion

While no long-term benefits of maternal exercise in the first pregnancy were noted in mothers, children exposed to maternal exercise during intrauterine life appear prone to greater fat mass accumulation in mid-childhood. Larger studies are required to confirm this important observation as exercise in pregnancy is widely recommended by obstetricians.

Published: 28 April 2015

doi:10.1186/1687-9856-2015-S1-O43

Cite this article as: Chiavaroli et al.: Regular, moderate intensity maternal exercise reduces birth weight but increases the risk of later childhood adiposity. *International Journal of Pediatric Endocrinology* 2015 2015(Suppl 1):O43.

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