



Correlation between gestational variables and cardio metabolic risk in adolescence is sex dependent

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Abstract:

“Metabolic Indicating that programming” intrauterine Growing body of evidence supports the essential to offspring health in subsequent life stages. Adverse situations during this period of life, like maternal overweight or poor maternal diet, can influence neuroendocrine and energetic balance from the fetus through lifelong time 1-7. Thus, impacts of maternal nutritional status on cardiovascular risk parameters in adolescent offspring have been increasingly observed 1-3,8,9. However, recent studies, mainly in animals, have been indicating that pregnancy can affect the developing fetus in different ways, depending on sex, where boys would be more affected than girls 10-16.

Methods

This is a cross-sectional study with 49 adolescents, performed in an Adolescent Health Center in state of Rio de Janeiro, Brazil.

Adolescent variables were collected in a scheduled visit, when sociodemographic (sex and age), clinical (diastolic and systolic blood pressure), anthropometric (weight, height, BMI and waist circumference [WC]), biochemical (glucose, total cholesterol, LDL-c, HDL-c, triglycerides and leptin) and at birth (birth weight and gestational age) variables were evaluated.

Conclusion

Based on the results from this study, maternal anthropometric

variables were correlated with anthropometric and biochemical variables in boys, in a moderate to very-strong way. Hence, for girls, the only correlations observed were in relation to leptin, and in a weak degree. It suggests that maternal nutritional status may influence adiposity, its Methylation of DNA during critical periods of development can occur.

Biography:

Nutritionist graduated from Universidade Federal do Rio de Janeiro (UFRJ) and a Master’s student in Clinical Medicine, from postgraduate program of the Faculty of Medicine of UFRJ. Currently, she works as Clinical Nutritionist and as a Researcher in Micronutrients Research Center from UFRJ, where she takes part since the first year of college and now coordinates graduate students activity (interns). Since before her graduation in Nutrition, she has participated as co-author in



published studies related to adolescence and obesity. Nowadays, her research line focuses in obesity, entero-hormones, weight gain and bariatric surgery, besides contributions in studies related to child-maternal health.

Recent Publications:

1. Luna M, Oliveira MN, Bull A, Matos A, Ramalho A (2020) Gestational Variables Correlate with Cardiometabolic Risk Factors in A Sex-Dependent Way in Adolescence. *Gynecol Obstet Case Rep* Vol.6 No.2:18
2. Gaillard R, Welten M, Oddy WH, Beilin LJ, Mori TA, et al. (2016) Associations of maternal prepregnancy body mass index and gestational weight gain with cardio-metabolic risk factors in adolescent offspring: a prospective cohort study. *BJOG* 123(2): 207-216.
3. Pirkola J, Pouta A, Bloigu A, Hartikainen AL, Laitinen J, et al. (2010) Risks of overweight and abdominal obesity at age 16 years associated with prenatal exposures to maternal prepregnancy overweight and gestational diabetes mellitus. *Diabetes Care.* 33(5): 1115-1521.
4. Sharp GC, Lawlor DA, Richmond RC, Fraser A, Simpkin A, et al. (2015) Maternal pre-pregnancy BMI and gestational weight gain, offspring DNA methylation and later offspring adiposity: findings from the Avon Longitudinal Study of Parents and Children *Int J Epidemiol.* 2: 1288-1304.
5. Lecoutre S, Breton C (2015) Maternal nutritional manipulations program adipose tissue dysfunction in offspring. *Front Physiol.* 13;6: 158.

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