Diabetes Mellitus and Glucose Metabolism

GESTATIONAL DIABETES, DIABETES IN PREGNANCY, AND IN UTERO EXPOSURES

Paracetamol May Increase Cardiac Congenital Malformations Risk in Prediabetic Pregnancy Women

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ABSTRACT

Hyperglycemia can influence the development of the fetal heart, affecting both its structure and its function. Prospective and retrospective cohort studies have demonstrated an increased risk of congenital abnormalities with gestational diabetes. This observation is probably related to the inclusion of women with unrecognized type 2 diabetes (Allen, 2007, Pasarella, 2013).

Substantial literature indicates that diabetes in pregnant rats and mice induces embryo lethality, growth retardation, and a variable incidence of birth defects. Then, the maintenance of normal concentrations of metabolites from all nutrient classes may be important for prevention of adverse fetal outcome in diabetic pregnancy.

Acetaminophen overdose is the most often cause of acute liver injury and obese women are in particular risk, because is able to induce mitochondrial oxidative stress (Rousar, 2012). Acetaminophen (Paracetamol) over doses decreased embryonic low-molecular-weight thiols (glutathione and cysteine), compounds that play a vital role in the detoxication of exogenous and endogenous chemicals (Mitchell, 1973, Beck, 2001, Rousar, 2012, rev).

The apparent safety of Paracetamol drug, a useful analgesic only (with no anti-inflammatory properties) (Neto, 2004; Hamlyn, 1978, Ucheya, 2006, Bessems, 2001) is compromized by its widespread and extensive chronic use, particularly in Peruvian population- Paracetamol though considered safe at a considerable low dose, especially in women, could cause kidney derangement and cardiac malformations during pregnant state (Ucheya, 2006), if the drug is ingested in the first trimester. Major congenital malformations, including those affecting the cardiovascular system, remain the leading cause of mortality and morbidity in infants of diabetic mothers (Pinter, 2001). Thus, there is an overcome potential maternal acetaminophen (paracetamol) toxicity (Horowitz, 1997).

Reproductive Endocrinology

REPRODUCTIVE ENDOCRINOLOGY: REPRODUCTIVE FUNCTION AND DYSFUNCTION ON DEVELOPMENT

Sleep Disturbances in Women with and Without Polycystic Ovary Syndrome (PCOS) and Their Association with Lifestyle Factors (Diet, Physical Activity and Sitting Time)

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Sleep disturbances in women with and without polycystic ovary syndrome (PCOS) and their association with lifestyle factors (diet, physical activity and sitting time)

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Sleep disturbances are a risk factor for poorer lifestyle behaviours. While PCOS is associated with a higher prevalence of sleep disturbances, the relationship between sleep and lifestyle behaviours is unknown in PCOS. Self-reported data from the Australian Longitudinal Study on Women's Health young cohort (31–36 years, n=6067, n=464 PCOS, n=5603 non-PCOS) were collected on PCOS, anthropometry, physical activity, sedentary behaviour, diet (74-item validated food frequency questionnaire) and sleeping behaviour (sleep quantity and adverse sleep symptoms). Multivariate regression models controlled for sleeping behaviour, BMI, age, marital status, education, income and area of residence. Women with PCOS reported greater adverse sleep symptoms, higher energy intake, diet quality (dietary guidelines index (DGI)), fibre intake and sedentary time and lower glycaemic index, compared to women without PCOS. This was not maintained for energy intake and sedentary behaviour on adjustment for confounders. For diet quality, there was an interaction between PCOS and sleep disturbances. Only for women with fewer sleep disturbances (~8 hours sleep/no adverse sleep symptoms) was PCOS associated with better diet quality (DGI higher by 3.14±0.86, $p<0.001$), with no differences in diet quality for women with poorer sleep. Lifestyle behaviours in women with PCOS appear to be influenced by sleep quality and quantity.

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Reproductive Endocrinology

CLINICAL STUDIES IN FEMALE REPRODUCTION II

Very Restricted Carbohydrate (Ketogenic) Diet: A Rare Cause of a Recurrent Hypoglycemic-Euglycemic Diabetic Ketoacidosis in the Pregnancy

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