Design of an Instrument to Evaluate the Antioxidant Content in the Diet of Pregnant Women with or without a Diagnosis of Gestational Diabetes

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Introduction. Gestational diabetes (GD) is defined as carbohydrate intolerance and hyperglycemia starting in the second trimester of pregnancy, which overlaps with the high progesterone blood concentrations. Since progesterone has been implicated in death of pancreatic beta cells by a mechanism dependent on the redox state, we are interested in to verify if there is any relationship between the antioxidants intake and GD development. **Objectives.** To develop a food frequency questionnaire (FFQ) to assess the amount and chemical nature of antioxidants in pregnant women diets with and without GD diagnosis, and to construct a table for systematization of antioxidant content (TAC) in the investigated food. **Material and Methods.** We designed a FFQ containing about two hundred Brazilian food items, grouped into categories and considering the intake frequency and different portions size. The questionnaire was submitted to 11 pregnant women with or without a diagnosis of GD, with average age of 33.5 years, between October to December, 2015. TAC was built from 14 specialized reference nutrient composition database. **Results and Discussion.** The FFQ was shown to be adequate regarding to food items, portions size and intake frequencies. Data from 4 women were analyzed from the TCA, being possible to determine the total amount of a particular antioxidant consumed by a pregnant in one year. On average, the consumption of vitamin A, E and C was 1585.29/1491.10 µg; 36.31/12.50 mg and 544.41/110.22 mg, in the pregnant group without and with DG, respectively. Selenium consumption was 109.16/26.93 µg in those groups. **Conclusion.** The instruments were considered adequate and allowed evaluation of antioxidants dietary consumption. Data showed that antioxidants consumption by pregnant women with GD is decreased in comparison to those without GD diagnosis. This investigation opens perspectives to better understanding of GD pathogenesis, and suggested that diet management can be thought for GD controlling.

Key words: Gestational Diabetes,Antioxidants, Food Frequency Questionnaire.