

عنوان مقاله:

Persistent Organic Pollutants (POPs) and Gestational Diabetes Mellitus in Iranian women

محل انتشار:

هفتمین سمینار بین المللی سلامت زنان (سال: 1397)

تعداد صفحات اصل مقاله: 2

نویسندگان:

Bitá Eslami - *Breast Disease Research Center (BDRC), Tehran University of Medical Sciences, Tehran, Iran*

Kazem Naddafi - *Center for Air Pollution Research (CAPR), Institute for Environmental Research (IER), Tehran University of Medical Sciences, Tehran, Iran*

Hossein Malekafzali - *Department of Epidemiology and Biostatistics, School of Public health, Tehran University of Medical Sciences, Tehran, Iran*

خلاصه مقاله:

Background: Persistent organic pollutants (POPs) comprise a large variety of substance such as polychlorinated biphenyls (PCBs) and polybrominated diphenyl ethers (PBDEs) that are characterized by their ability to persist in the environment, low water and high lipid solubility, slow degradation, and bio-magnification in the food chain. There is growing evidence that POPs may play an important role in increasing the risk of gestational diabetes mellitus (GDM). The aim of this study was to examine the association between polychlorinated biphenyls (PCBs, 10 congeners) and polybrominated diphenyl ethers (PBDEs, 8 congeners) and GDM in primiparous women with no family history of diabetes in first-degree relatives during the third trimester of pregnancy. Methods: This case-control study was performed among the three university hospitals of Tehran University of Medical Sciences. Serum samples were collected from cases (n=70) that were diagnosed with GDM and from controls (n=70) with a normal pregnancy that attended the same hospital for a routine prenatal visit. Pollutant levels were analyzed by Gas Chromatography Mass Spectrometry (GC/MS). Results: Logistic regression analyses manifested the positive association between total POPs (sum of total PCBs and PBDEs) (Odds Ratio (OR) = 1.61, 95% CI: 1.31–1.97, p-value <0.0001) and total PCBs (OR=1.75, 95% CI: 1.35–2.27, p value <0.0001) and GDM considering confounding variables (age, gestational age, pre-pregnancy body mass index (BMI), and total maternal serum lipid). In addition, we found a positive association between total PBDEs and GDM (OR = 2.21; 95%CI: 1.48–3.30, p-value <0.0001). Conclusion: Our data suggest that exposure to certain POPs (PCBs and PBDEs) could be a potential modifying risk factor for GDM and the potential interactions among studied chemicals (PCBs and PBDEs) may not always be additive. Despite the small magnitude, such findings may assist us in targeting susceptible women for the prevention of type 2 diabetes, as the disease is a major threat to public health. Further evaluation about the routes of exposure and the trends of POPs, specifically among pregnant women, can assist health care providers and stakeholders in taking actions to reduce exposure to such pollutants overtime

کلمات کلیدی:

Persistent organic pollutants (POPs); polychlorinated biphenyls (PCBs); polybrominated diphenyl ethers (PBDEs); (gestational diabetes mellitus (GDM).

