

2<sup>nd</sup> World summit on HEALTH NUTRITION

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**Maternal consumption of ultra-processed foods and newborn exposure to perfluoroalkyl substances (PFAS)****Nathalia Ferrazzo Naspolini<sup>1</sup>, Priscila Pereira Machado<sup>2</sup>, Josino Costa Moreira<sup>3</sup> and Armando Meyer<sup>4</sup>**<sup>1</sup>Oswaldo Cruz Foundation, Rio de Janeiro, Brazil<sup>2</sup>Deakin University, Australia<sup>3</sup>Oswaldo Cruz Foundation, Rio de Janeiro, Brazil<sup>4</sup>Federal University of Rio de Janeiro, Rio de Janeiro, Brazil

Evolving evidence has shown that ultra-processed food (UPF) consumption may increase exposure to chemicals used in food packaging and production, such as per- and poly- fluoroalkyl substances, phthalates, and bisphenols. Studies have suggested that placenta, increasing concerns for both maternal and child health. This study aimed to investigate the association of maternal consumption of UPFs with newborn exposure to perfluoroalkyl substances (PFAS) in the PIPA project (The Rio Birth Cohort Study on Environmental Exposure and Childhood Development). The pilot cohort study conducted with 142 pregnant women and their newborns in a Public Maternity School in Rio de Janeiro, Brazil was assessed. Maternal dietary intake in the third trimester of pregnancy was evaluated using a qualitative food frequency questionnaire. Food items were classified as non-UPF and UPF using the NOVA system and regular consumption of UPFs was estimated. The PFAS were determined on umbilical cord blood. Newborns of pregnant women who consumed three or more subgroups of UPF weekly presented the highest level of PFAS (2.51 ng/mL; SD 1.64), compared to consumption of zero or one UPF subgroup (0 UPF=1.67 ng/mL; SD 1.12 and 1 UPF=1.88 ng/mL; SD 1.15). A dose-response effect trended toward significance ( $p$  for trend was 0.059). Additionally, cluster analysis grouped UPF, fish, and PFAS levels. In conclusion, it was found increased levels of PFAS in newborns whose mothers were higher consumers of UPFs.

**Biography**

Nutritionist, Ph.D. in Public Health and Environment (Oswaldo Cruz Foundation, Brazil). Researcher at PIPA Study Group (The Rio Birth Cohort Study on Environmental Exposure and Childhood Development). Working on: Environmental pollutant exposure on early-life gut microbiome. This extends to chemical exposure through ultra-processed food consumption.

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