

HIGH-CALORIE DIET DURING LACTATION PROGRAMS EARLY HYPERPHAGIA IN MALE AND FEMALE NEWBORN RATS

Aline Milena D. Rodrigues¹, Manoela F. Antunes, Luís P. H. Rodrigues da Silva, Júlio Cezar de Oliveira
¹aline.ar60@gmail.com, NUPADS/ICS – UFMT, 0009-0003-5859-952X

Obesity is a serious and concerning disease for public health. Breastfeeding is crucial for metabolic programming and plays an important role in controlling newborn metabolism. The aim of this study was to analyze weight gain and milk consumption in male and female newborn rats whose mothers were fed a high-calorie diet during the breastfeeding period. At delivery, female Wistar rats were divided into two groups, one was fed a hypercaloric diet (4,500 kcal/g and sucrose solution at 10%; Ob group), while control dams were fed commercial diet (Cont group). Pups were weighed every two days, and milk intake was recorded on the 6th, 11th and 16th days old. At 22 days old, the pups were weaned, and the mother rats were euthanized for analysis. At 6th day olds, Ob males consumed 42.7% more milk than Cont, while Ob females consumed 33.9% more than Cont ($P < 0.001$). On the 11th day of life, Ob males consumed 42.7% more than Cont, while Ob females consumed 33.9% more than Cont ($P < 0.05$). On the 16th day, Ob males consumed 39.3% more than Cont ($P < 0.001$), while Ob females consumed 29.8% more than Cont ($P < 0.01$). During the breastfeeding period, there was an increase in body mass of Ob males by 21.7% ($P < 0.05$) and in females by 10%. It was observed that Ob males showed a weight increase of 18.65% compared to Ob females ($P < 0.001$), while among the Cont group pups, no significant difference was observed between males and females. We concluded that offspring breastfed by mothers who consumed a high-calorie diet during lactation are more likely to develop early hyperphagia, and a greater risk of developing obesity.

Keywords: Childhood Obesity, Perinatal Programming, Breastfeeding

Funding: CAPES, CNPq

