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1º SIMPÓSIO INTERNACIONAL de DOHaD e Pandemia: LIÇÕES DO COVID-19
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MATERNAL RESTRICTIVE DIETS DURING LACTATION IMPAIR GABAERGIC SIGNALING IN THE HYPOTHALAMUS AND MIDBRAIN IN MALE ADULT RATS

Isadora S. Rosa[1], Keilah V. N. Cavalcante, Marcos D. F. Junior, Juliana V. V. Ribeiro, Ariel P. C. Mota, Maria E. R. Silva, Jose A. B. L. Sobrinho, Carlos H. Xavier, Gustavo R. Pedrino, Rodrigo Mello Gomes
[1]keilah1506@gmail.com, ICB/UFG, 0009-0002-0410-2528

The aim of this work was to evaluate the behavioral parameters and the GABAergic signaling in the hypothalamus, midbrain and medulla. Mothers and litters were distributed into 3 groups: Control (CO) fed with standard diet (20% protein), food restriction (FR) with standard diet limited of 50% of the daily consumption of CO, and low-protein (LP) fed with LP-diet (4% protein). Interventions were carried out from the 1st-14th, and 14th-21st day of lactation. Offspring of both sexes were evaluated until 120 days old by elevated plus maze (EPM) and open field (OP) test. Male LP rats showed a decrease in the closed arm (CO 158±11.51 *vs* LP 105.5±9.63; s), an increase in the open arm (CO 85.10±8.65 *vs* LP 139.8±12.36; s) time, and in the number of open arm entries (CO 5.25±0.58 *vs* LP 8.40±0.79; a.u.) compared to the CO. In OP, male LP rats showed an increase in crossings (CO 51.94±4.29 *vs* LP 71±3.41; a.u.) and in the frequency of crossings (CO 51.94±4.29 *vs* 69.25±4.44; a.u.) compared to the CO. Male FR showed a decrease in the expression of GABA B receptors (CO 100±12.60 *vs* FR 56.34 v 4.19; % control). In the midbrain, male LP and FR showed a decrease in GAD (CO 100±11.22 *vs* LP 47.59±6.21 *vs* FR 74.18±8.82; % control) compared to the CO. In conclusion, maternal protein and caloric restriction during lactation induces less anxious behavior and increases exploratory activity in males in adulthood, through modulation in GABAergic signaling.

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