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1º SIMPÓSIO INTERNACIONAL de DOHaD e Pandemia: LIÇÕES DO COVID-19
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METHYLPHENIDATE EXPOSURE DURING PERIPUBERTAL PHASE AFFECTS LEARNING AND MEMORY OF ADULT RATS

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Methylphenidate (MPH) is the active ingredient in Ritalin, although effective in treating of the attention deficit hyperactivity disorder (ADHD), its neurostimulation action is attractive among students in order to increase the focus or improving student performance. In context of the Developmental Origins of Health and Disease (DOHaD) concept, states that insults in critical phases of development, as the peripubertal period, may program the organism to dysfunctions in adulthood. The aim of this work was to investigate the impact of peripubertal MPH exposure on learning and retrograde memory in adult rats. Male Wistar rats were exposed to MPH (5 mg/kg) from post-natal day (PN) 30 until PN60 (MPH). Control animals received 0.9% saline (Sal). At PN60, learning was evaluated true 10 days in an eight-arm elevated maze and at PN120 retrograde memory. At PN60, MPH group showed a delay of 61% in the latency, an increase of 100% in the number of errors and 200% in the number of repetition errors when compared to the Sal group, until the day 5 of learning period ($p=0.004$). After the washout period, at PN120, the MPH group showed an increase of 37% in the latency, 49% in the number of errors of reference and 600% in the number of repetition errors compared with the Sal group ($p=0.001$, $p=0.004$ and $p=0.01$). Exposure to MPH during peripubertal phase decreases learning and memory in adult male Wistar rats.

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