

## **Influence of maternal experience on behavioral response to the maternal separation stress in mother rats: Preliminary results**

Pregnancy and postpartum are periods of maximum neuronal and behavioral plasticity in a female life. In the present study we investigated whether reproductive experience (number of pregnancies and parturition) affects the behavioral response to an environmental stress as the early mother-pup separation by studying parameters known to be affected by long-term stress. Primiparous (1 reproductive experience) and multiparous (MP) (2 reproductive experiences) age-matched female Wistar rats were subjected to either animal facility conditions or daily 4,5h of separation from pups (MS) from postpartum day (PPD) 1-21. Maternal care (pup retrieval) and maternal behavior was evaluated during early postpartum. After weaning, anxiety (elevated plus maze) and spatial memory (object location) were assessed. The preliminary results suggest that MP females show a greater efficiency in maternal care. During early postpartum, multiparity and separation from pups induces an increase of active maternal behaviors. MP rats show a trend towards better performance in spatial memory. Contrary to expected, MP females showed increased anxiety-like behaviors. Although preliminary, the present results support the conclusion that reproductive experience influences the maternal mind. The behavioral changes in the transition to motherhood and the consequences of disrupting the natural dam-pup interaction as well as the neurobiological mechanisms for these effects, however, remain to be identified.