

Abstract Information

First Name :	Oumaima
Last Name :	Essaidi
Email :	essaidioumaima1996@gmail.com
Address :	Biological Engineering Laboratory, Faculty of Science and Technology, Sultan Moulay Slimane University, Beni mellal, Morocco
Participation :	symposium
Title of the Symposium :	Early life stress, Sex differences, and Maternal influences: Insights into Brain and Behavioral Disorders
Category :	Student
Thematic Area :	Stress, and Mental Health
Title :	Sex-specific long-term effects of prenatal stress in mice offspring.
Co-Authors :	Meriem Laaroussi ¹ , Laila Berroug ² , Hammou Anarghou ^{1,3} , Fatiha Chigr ¹ . 1. Biological Engineering Laboratory, Faculty of Science and Technology, Sultan Moulay Slimane University, Beni mellal, Morocco 2. Department of Cell Biology and Anatomy, New York Medical College, Valhalla, New York, USA 3. High Institute of Nursing Professions and Health Techniques Dakhla Annex, Dakhla, Morocco

Abstract : Prenatal stress (PS), in both humans and animals, presents a potential risk threatening the mother and her fetus throughout gestation. PS is always associated with physiological changes that alter embryonic development and predispose the individual to lifelong health problems, including susceptibility to mental illness, in a sex-specific manner. This study investigated the long-term effects of prenatal restraint stress on memory and depression-like behaviors. Pregnant mice were subjected to restraint stress from embryonic day 7.5 (E7.5) until delivery for three hours daily, and their offspring were evaluated for discrimination memory and depression-like behaviors. Stressed females exhibited impaired discrimination memory, an effect that persisted into adulthood. Both male and female mice displayed increased depression-like behaviors during adolescence and adulthood. At the adult stage, hippocampal analysis revealed elevated levels of pro-inflammatory cytokines and reduced brain-derived neurotrophic factor (BDNF) expression in stressed animals. These findings suggest that PS induces neuroinflammatory and neuroplasticity alterations, contributing to long-term, sex-specific behavioral and molecular outcomes.