

# Abstract Information

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<b>Participation :</b>	symposium
<b>Title of the Symposium :</b>	Serotonergic Modulation and Neurochemical Pathways: Implications for Antidepressant Efficacy, Epilepsy, and Neurotoxicity
<b>Category :</b>	Student
<b>Thematic Area :</b>	Pollutants, Neurotoxicity, and Brain Disorders
<b>Title :</b>	Effect of pesticides alone or combined on monoamines and behavior in rats
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**Abstract :** Synthetic pyrethroids are widely used as plant protection agents in agriculture. However, several epidemiological studies have suggested that these chemicals are considered potential contributors to neurodegenerative diseases. Given the critical role of the brain's monoaminergic systems in regulating brain functions, pyrethroids may impact neurochemistry. Our research aimed to investigate the effects of the exposure to 2 types of pyrethroids and their combination on the serotonergic and dopaminergic systems and the related cognitive and behavioral outcomes in Wistar rats, with a particular emphasis on gender-specific impacts. Rats were divided into four groups: control, permethrin group (34 mg/kg), deltamethrin group (1.35 mg/kg), and a mixture group receiving both pyrethroids during the lactation period (PND7 to PND21). Behavioral assessments were conducted at PND150, and monoamine levels in various brain regions were quantified using HPLC-ECD. Our findings revealed that early exposure to synthetic pyrethroids leads to alterations in brain monoaminergic systems, which were associated with the disruption of cognitive behavior in a sex-dependent manner in the rats.

KEYWORDS: Lactation period, permethrin, deltamethrin, mixture, monoamines, behavior, HPLC-ECD