



**Title: Pathogenesis of Neuropsychiatric and Neurodegenerative Diseases: From What We Eat to How Our Parents Felt**

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**Abstract:**

Life experiences and environmental conditions are strong determinants of brain health in humans. Long-term exposure to adverse conditions, such as traumatic experiences or nutritional insults can not only lead to brain diseases in the exposed individuals but such disease susceptibilities may also be transmitted to their offspring. Two important molecular pathways connect environmental exposures to brain disorders; 1) epigenetic factors, such as non-coding RNAs (ncRNAs), and 2) metabolic factors. Notably, our previous research showed a causal role for ncRNAs in intergenerational transmission of neuropsychiatric disease risk after early life trauma and a potential role for metabolic pathways in mediating this transmission. Similarly, we previously discovered a surprising 'protective' effect of metabolic perturbations in several neurodegenerative disorders. Jawaid lab now aims to further dissect the liaison between ncRNAs and lipid molecules in neuropsychiatric sequelae of early life trauma; and investigate how glucose and lipid metabolism can be manipulated to counter neurodegeneration and/or its neuropsychiatric manifestations.