

S18-02 - GENE-ENVIRONMENT INTERACTION: 5-HT_{2A} AA GENOTYPE AND CHILDHOOD EMOTIONAL ABUSE UPTURN SUICIDE RISK IN MALE PRISONERS

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Suicide is the leading cause of death in prisons. Number of studies has indicated disturbances in serotonin neurotransmission in persons displaying suicide behaviour and depression. We hypothesized that 5-HT_{2A} -1438G/A polymorphism would modulate the influence of childhood trauma on suicide and depression among prisoners in a gene-environment-dependent manner.

Study participants were 427 male prisoners detained in jails of the District of Abruzzo-Molise in Italy. All were assessed through psychiatric interview, Hamilton Rating Scale for Depression (HRSD-21 items) and Childhood Trauma Questionnaire (CTQ). The component structure of the 21 HRSD items was determined using principal component analysis with varimax rotation and three components were extracted. We proposed a new gxe model with all components dichotomised at the median and used as dependent variables when creating logistic regression.

Significant interactions were found with the suicide/insomnia component only. The major findings were:

- 1) emotional abuse during childhood interacts with 5-HT_{2A} AA genotype to increase the risk for later-life suicide and insomnia,
- 2) 5-HT_{2A} AA genotype and childhood traumas (emotional abuse and physical neglect) independently of each other increased the risk for later-life suicide and insomnia,
- 3) 5-HT_{2A} AG and GG genotypes might be protective against suicide and insomnia, even when in interaction with childhood traumas.

Our results add evidence to the fact that suicide and insomnia are both complex traits shaped by interactions between genetic and environmental factors. These factors might interact dynamically throughout prenatal and postnatal periods, thus shaping the brain development and leaving long-term consequences on adult behaviour.