IX INTERNATIONAL MEETING OF THE LATIN AMERICAN SOCIETY FOR BIOMEDICAL RESEARCH ON ALCOHOLISM (LASBRA) NOVEMBER 7TH, 8TH AND 9TH, 2019.

"DETERMINANTS OF ALCOHOLISM: BRIDGING THE GAP BETWEEN EPIDEMIOLOGICAL AND BASIC RESEARCH"

ELSA COHORT 2014: ACUTE ALCOHOL EFFECT ON INHIBITORY CONTROL, REWARD SENSITIVITY AND RISK TAKING IN COLLEGE STUDENTS WITH HIGH AND LOW TRAIT IMPULSIVITY

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Introduction: Impulsivity and risk taking are core constructs to understand alcohol-related behaviors. Alcohol consumption is greater in those exhibiting relatively high levels of impulsivity and risk taking, and alterations in impulsivity and risk taking have been reported after acute alcohol ingestion. **Aim:** To examine the acute effect of ingested alcohol (0.6/0.7 g/kg in women and men respectively, equivalent to the expected breath alcohol concentration after a binge drinking episode) on inhibitory control, reward sensitivity and risk taking in students with high (IMP+) or low (IMP -) trait impulsivity. **Methodology:** 85 college students from the ELSA cohort 2014 (43 women, aged 21-27 years old [Mean age=22.74±1.51]) completed the BART (risk taking), GoStop (inhibitory control) and SKIP (reward sensitivity) tasks, before and after the consumption of an alcohol or a placebo drink. ELSA is a large, longitudinal study that analyzes alcohol-related behaviors in Argentinean college students. **Results:** Alcohol increased risk taking in women but not in men and induced a poorer inhibitory control, a result which was more pronounced in men than in women. Reward sensitivity was similar regardless alcohol or placebo. The hypothesis of greater behavioral impulsivity in those exhibiting higher trait impulsivity was partially corroborated. An interesting result was the differential effect of alcohol treatment on BrACs and subjective perceived intoxication between men and women. Specifically, women who received alcohol reached lower BrACs than men, but they felt more intoxicated and felt more intensely the sedative effects of alcohol than men. **Conclusions:** Alcohol induced increases in impulsivity and risk taking in a sex-dependent manner. Women were more sensitive to the acute effects of alcohol on risk-taking while men were more sensitive to the effects of the drug on inhibitory control. These results show that men and women are differently vulnerable to the toxic effects of alcohol on different indicators of behavioral impulsivity and risk taking.

ETHANOL EXPOSURE AND THE IMPAIRMENTS ON LEARNING AND MEMORY BEHAVIOR ASSOCIATED WITH DIFFERENTIAL GENE REGULATION IN ZEBRAFISH BRAIN

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Alcohol use harm process of learning and memory in humans and other animals. This drug consumption can cause brain damage after few exposures. In this context, animals models, like zebrafish (*Danio rerio*), has emerged as model organisms to study behavioral and molecular mechanisms of diseases, including those