FKBP5 modulates the effects of nicotine on hpa axis activity in females
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Background FK506 binding protein 51 is a modulator of the hypothalamic-pituitary-adrenal axis activity. Its function is modulated by the single nucleotide polymorphism rs 1360780. Females often use smoking to cope with stress. The aim of this study was to investigate if the influence of nicotine consumption on cortisol plasma levels is modified by the polymorphism of rs 1360780 in females.

Methods Two hundred and ninety-six female smokers were genotyped for the SNP rs1360780 of FKBP5 protein. Cortisol plasma concentrations were measured in blood plasma drawn three hours after smoking. Severity of tobacco addiction was assessed based on the Fagerström Test for Nicotine Dependence (FTND).

Results Thirty-six participants were TT-homozygotes and 260 were C allele carriers. In TT homozygotes, we found a significant negative correlation between the FTND sum score and the cortisol plasma concentrations. In a linear regression analysis, the FTND sum score accounts for 1.24% of the variance of cortisol plasma levels. By contrast, we could not find such an association in C allele carriers.

Conclusions Our results suggest that nicotine is an important confounder in the modulation of HPA axis activity by FKBP5. In the light of these findings, future studies on FKBP5 should include nicotine consumption as a confounder.

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Influence of impulsivity during decision-making in regular cannabis users
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Introduction Regular cannabis use is associated with cognitive impairments, including impaired decision making measured by the Iowa Gambling Task. The question remains whether the impulsivity measured in regular cannabis users may participate to impaired decision making. Interestingly, the Cambridge Gambling Task (CGT) is a computerized gambling task allows to differentiate risk taking and impulsivity when making a decision.

Aims This study aims at separately exploring the impact of regular cannabis use on risk taking and impulsivity during decision making process.

Objectives To do so, we compared the performance of regular cannabis users and healthy controls during the CGT.

Methods Forty-three regular cannabis users (> 7 units/week) with a cannabis use disorder (CUD), 8 non-CUD regular cannabis users and 30 healthy controls were recruited. Decision-making was assessed using the CGT. The following outcomes were considered: Delay aversion score, Overall proportion bet, quality of decision making, risk taking and risk adjustment.

Results The analysis on delay aversion score showed a group effect (F = 3.839, P = 0.026) but no effect on other CGT variables. This effect was explained by the fact that cannabis CUD users had a higher delay aversion score than healthy controls and non-CUD cannabis users.

Conclusions In this study, CUD cannabis users had an increased impulsivity but no increase of risk taking and quality of decision-making. Future work should include the CGT with a clinical scale to evaluate impulsivity and a motor inhibition task to understand if the impairment observed relates to cognitive or motor abilities.

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