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Stroop interference and 5HTTLPR polymorphisms between heavy smokers

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Introduction: Seven million people in the world die due to smoking habits. Smokers die earlier, although world's effort to limit the tobacco's use, the nicotine dependence is stronger. The genetic factors can explicate about dependence mechanism. The 5HTTLPR polymorphisms give risk to drugs use and abuse, in addition was related with cognitive disturbance, but there are few studies about link between 5HTTLPR polymorphism and smoker's habits.

Objective: The main aim of this study was to compare the polymorphisms 5HTTLPR, psychological factors and attention skills between heavy smokers and nonsmokers.

Methods: 55 subjects were included, 28 heavy smokers and 27 nonsmokers. General data, family income and perceived stress were asked and the attentional skills from Stroop Colors Word test were evaluated. Blood sample was collected (10 ml) for DNA extraction and genotype classification of 5HTT gen polymorphisms. The subjects were grouping by allelic variants S (44pb deletion) (59 subjects) and L (528pb) (51 subjects).

Results: Subjects with S allele show higher scores in attention ($X=6.11$) than subjects with L allele ($X=6.11$) ($Z=0.012$, $p<0.02$). In addition, 48% of smokers with S allele show lower age of initiation to tobacco habit ($Z=-2.26$, $p<0.03$). Furthermore, these results only keep similar in women with S allele.

Conclusion: Subjects with S allele are better in resistance of interference Stroop, but begin to smoke early than others with allele L. The S allele only has effect in women.

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