

MEETING ABSTRACT

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# Evaluating the effect of Tetrahydrocannabinol ( $\Delta^9$ -THC) extracted from Cannabis sativa plant on spatial memory consolidation in rats

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## Background

As the point of physiology, memories form changes in the conducting message in the neural webs. These changes cause the formation of long-term potentiation.  $\Delta^9$ -THC is a psychotropic component of Cannabis sativa plant. Studies show this matter can bind Cannabinoid receptor in CA1 area of Hippocamp. Thus the aim of this study is to evaluate the effect of aqua extraction Cannabis sativa seed on spatial memory consolidation in rats.

## Materials and methods

A number of 40 male wistar rats (3-4 month, 320-260 g) were completely divided into 4 experimental groups and control group. Cannabis sativa seed was extracted with Soxhlet apparatus. To test spatial memory, Morris water mazemaze (7 days, 4 trails) was used.

Experimental groups with 50 mg.kg-1, 100 mg.kg-1, 150 mg.kg-1, 210 mg.kg-1 were injected in the peritoneal (IP) and after one hour of injection spatial memory was scaled.

## Results

The result show that experimental groups (50 mg.kg-1, 100 mg.kg-1, 150 mg.kg-1 doses), for learning time have significant level eduction in the comparison of control group ( $p < 0.05$ ), but experimental group with 210 mg.kg-1 dose has not significant level in the comparison of control group ( $p < 0.05$ ).

## Conclusions

We demonstrate tetrahydrocannabinol can change brain function as learning and memory processes and probably was done with Depolarization-Induced Suppression of excitatory (DSE) mechanism in the CA1 area of Hippocamp that with neurotransmitter regulation cause europlasticity.

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