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Effects of acute systemic administration of cannabidiol on sleep-wake cycle in rats.

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Abstract

Cannabidiol (CBD) is one of the main components of Cannabis sativa and has a wide spectrum of action, including effects in the sleep-wake cycle.

OBJECTIVE: The objective of this paper is to assess the effects on sleep of acute systemic administration of CBD.

METHOD: Adult male Wistar rats were randomly distributed into four groups that received intraperitoneal injections of CBD 2.5 mg/kg, CBD 10 mg/kg, CBD 40 mg/kg or vehicle (n=seven animals/group). Sleep recordings were made during light and dark periods for four days: two days of baseline recording, one day of drug administration (test), and one day after drug (post-test).

RESULTS: During the light period of the test day, the total percentage of sleep significantly increased in the groups treated with 10 and 40 mg/kg of CBD compared to placebo. REM sleep latency increased in the group injected with CBD 40 mg/kg and was significantly decreased with the dose of 10 mg/kg on the post-test day. There was an increase in the time of SWS in the group treated with CBD 40 mg/kg, although this result did not reach statistical significance.

CONCLUSION: The systemic acute administration of CBD appears to increase total sleep time, in addition to increasing sleep latency in the light period of the day of administration.

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