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## Effect of the ketogenic diet on the activity level of Wistar rats.

[Murphy P](#), [Likhodii SS](#), [Hatamian M](#), [McIntyre Burnham W](#).

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Children, adolescents, and adults with epilepsy often also show symptoms associated with attention-deficit/hyperactivity disorder (ADHD). The ketogenic diet, which is administered to children with epilepsy refractory to drug therapy, seems to improve behavior in individuals with symptoms of ADHD. The basis for this improvement is unknown, although it seems to be unrelated to seizure control. The present research was designed to investigate the effect of two ketogenic diets on the behavior of normal adult male rats. Two experiments were conducted. In experiment 1, 36 subjects were placed on one of three diets: a control diet, a 6.3:1 ketogenic diet, and a 4:1 ketogenic diet. In experiment 2, 20 subjects were placed either on a control diet or on a 4:1 ketogenic diet. The activity level of each subject was measured using an open field test. Time spent immobile, grooming, and in exploratory behavior was measured for 600 s. Subjects were tested once before initiation of the diets and once while on the diets. No significant group differences were found in activity level before initiation of the diets. After initiation of the diets, subjects in both ketogenic groups showed a significantly lower activity level than the rats on the control diet. The ketogenic diet decreases activity level in an animal model. This behavioral change may relate to the improved behavior seen when children with symptoms of ADHD are placed on the diet.

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