

## EXPERIMENTAL WORK ON THE INFLUENCE OF ENERGY DRINK «BURN» ON THE ANXIETY'S LEVEL OF LABORATORY RATS

Ermolaeva D.V., Pechyorskaya Yu.O., Tsydendambaeva S.Z., Batalova T.A.

Amur State Medical Academy, Blagoveshchensk, Russia

**Abstract** The effect of the energy on the behavioral characteristics of the beverage, in particular anxiety, laboratory Wistar rats was studied. We used a drink dose, which was used by adults. Anxiety was assessed using the elevated plus maze procedure. A significant decrease in anxiety in the use of energy drinks was shown.

Key words: anxiety, energy drink, elevated plus maze.

“Energy drinks - non-alcoholic or low-alcohol beverages, in an advertising campaign that focuses on their antisedative effect and / or the ability to stimulate the central nervous system. First «Energy beverages» were on sale in Japan in the early 1960s and occupied the shops throughout the world for twenty years.

The question of controversial actions of energy drinks on the body remains actual nowadays. They have become a panacea for students during the session, for going to records athletes, for tired drivers, for visitors of nightclubs and for all those who are very tired, but should continue to be in a cheerful state of mind and body. But what is the true influence of these "magic drink"?

Objective: To find out the «Burn» energy drink effect on the mental state of the laboratory white rats.

The aim of our work is 1) to analyze the composition of the «Burn» energy drink; 2) to experimentally investigate the effect of energy on the level of anxiety in rats.

Materials and methods. We studied the effect of the beverage ingredients: Caffeine - stimulates brain activity and mental processes, activities cardio vascular system (CVS). Taurine accumulates in muscle tissue and improves metabolic processes in them. The large amounts of taurine can cause excitement of the nervous system and its depletion. Carnitine - reduces muscle fatigue and oxidation of fatty acids in the body. Exceeding of the dose can cause pain in the stomach, indigestion, muscle weakness and a sharp decrease in pressure. Also Guarana is included, that eliminates lactic acid from the muscles; mateine - eliminates the feeling of hunger; Vitamin B8-regulates nerve impulses, blood pressure.

The experiments were performed on 20 white rats, male and female Wistar strain (m = 200-250g). All animals were kept under standard vivarium conditions in cages with free access to food and water in the diet corresponding to norms. The animals were divided into groups: 1-control (n = 10), 2-experimental (n = 10). Next it was performed individual check of the level of anxiety in rats using elevated plus maze.

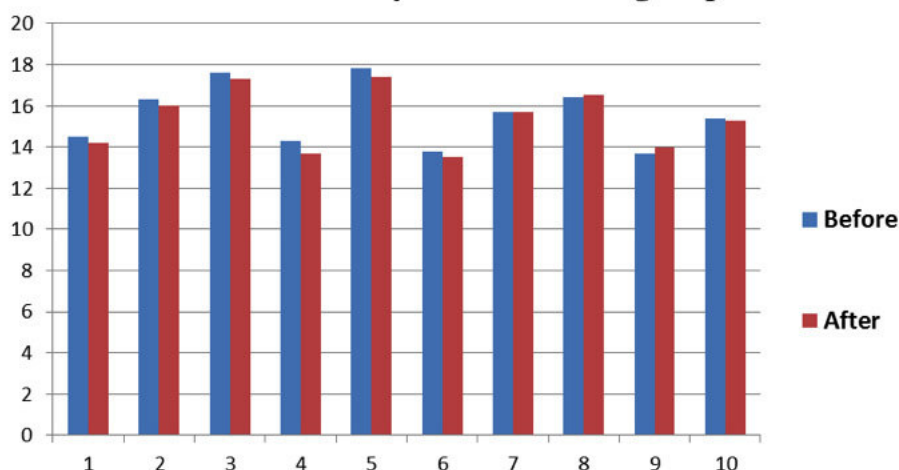
Elevated plus maze test is the most appropriate method for determining research activity and anxiety in small laboratory animals, rats and mice. The introduction of behavioral experiments (Pellow S. et al, 1985; S. Pellow, S.E. File, 1986), this technique has been praised for researchers. The test is based on the unconditioned reflex fear of heights and open spaces in nocturnal animals, which include laboratory rodents. Test is designed to study the behavior of rodents in stressful conditions, variable (with the free choice of comfort) and to evaluate: the level of anxiety of the animal (in the dark / light preference, vertigo, severity and dynamics of active behavior "looking out").

Testing time was 3 minutes. Anxiety was assessed by the method (4). The residence time in the open arms of the maze (1 sec. = 0.1 b), the time of physical activity (1 sec = 0.1 b), banging 1 b, vertical stand 1 b. Evaluation based on an emotional level was made on the calculation of time spent in the closed arms of the maze (0.4 b for 1 sec) 1 b 1 b 1 and a bolus of 1 grooming.

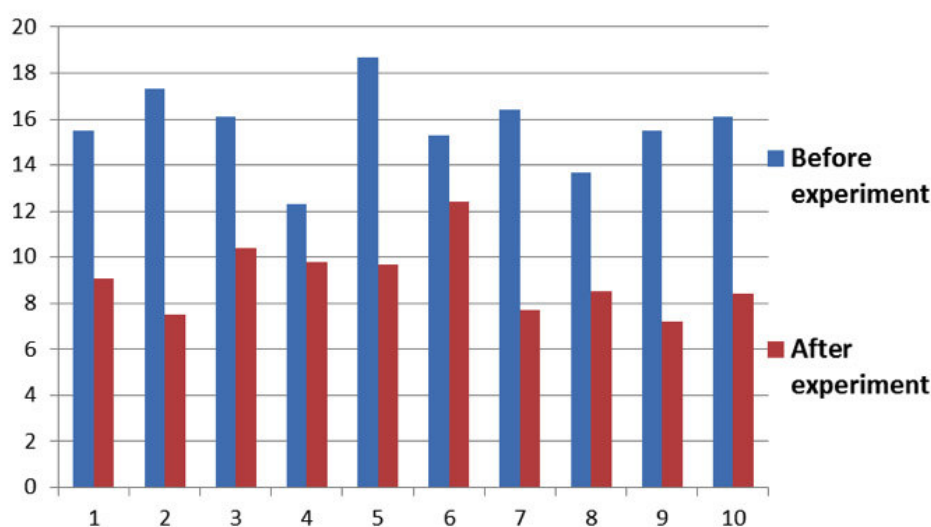
Daily by gavage into the stomach control group of rats was administered 2.7 ml of water, and experimental - 2.7 ml «Burn». The dose was calculated in equivalent 330 ml of energy drink, which corresponds to normal use by adults per day. The experiment lasted for 10 days, after which we again made the UCM test. The results were statistically processed by using of the Microsoft Excel program, by using of Student's t-test.

Results: In the experimental group there was significant decrease of the level of anxiety in rats by 42%. In the control group there was no reliable probability of level of anxiety in rats.

### The level of anxiety in the control group



### The level of anxiety in the experimental group



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#### CLINICO-ANAMNESTIC MYOCARDIAL FEATURES IN CHILDREN CITY OF BLAGOVESHCHENSK Fomin V.V., Galaktionova S.M.

Amur State Medical Academy, Blagoveshchensk, Russia

The term "myocardial dystrophy" (MCD), refers to metabolic disorders in the myocardium at the biochemical level, which are partially or completely reversible while eliminating their causes. A long-term and progressive degeneration of the myocardium leads to a decrease of its contractile function and the development of heart failure. MCD of the heart of any etiology is usually an acute or chronic myocardial hypoxia. [1]

The need to study myocardiodystrophy problems in pediatrics due to the prevalence of this disease in children and adolescents. Currently, the unfavorable ecological situation is marked negative trend in an increase in the frequency of metabolic diseases of the heart muscle in the structure of cardiovascular disease. According to population studies, accounting for between 6 and 19% of all cardiovascular disease in childhood. Difficulties in studying the problem related to the lack of a single view of the diagnostic criteria for myocardial dystrophy in children. [2]

**Objective.** To determine the characteristics of clinical and anamnestic profile of children with myocardial in the city of Blagoveshchensk.

**Materials and methods:** The study included 300 children with myocardial dystrophy. Of these, 156 (52%) of a girl (mean age  $14 \pm 1,3$ ) and 144 (48%) boys (mean age  $11 \pm 1,7$ ). In the study were used: medical history, examination findings, assessment of the vegetative status of the scoring table, ECG, CIG, ultrasound of the heart with doplerometrii, thyroid ultrasound. Data processing was carried out using the «Microsoft Excel» program.

**Results.** All the children traced the genesis of myocardial dystrophy mixed. Resistant for MKD in 282 (94%)