

عنوان مقاله:

Investigating the effect of magnesium and exercise on increasing brain growth of adult male rats

محل انتشار:

دومین همایش بین المللی پژوهش های نوین در علوم ورزشی و تربیت بدنی (سال: 1396)

تعداد صفحات اصل مقاله: 3

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خلاصه مقاله:

Growth and evolution is a complex and ceaseless process that begins at the very moment of the sprout formation and continues until death. Growth is defined as the changes made at individual's activity levels over time. Body natural growth depends on several hereditary, nutritional and sensory factors. It is known that many nutrients including vitamins and minerals have special roles in formation of some enzymes needed for metabolism; so, if reception of these food agents get into trouble, the body responds to it. The effects of nutritional deficiencies during fetal, infancy, and childhood development depend on the type, severity and duration of that nutrient deprivation and slows down the growth of body and other physical aspects. Cations are among factors affecting the brain and nervous system; magnesium is one of the four main cations in the body and the second intracellular cation which strongly affects various metabolic processes and accelerates more than 300 enzymatic reaction. In the present study, to emphasize the role of magnesium in development of the brain and nervous system, the effect of magnesium on quantitative and qualitative enhancement of adult male rats along with physical activity was investigated. The rats were divided into four groups: control, exercise, magnesium and magnesium spore. Magnesium was injected into rats for a week through gavage method. Based on the practice protocol, the rats also worked for one week on the treadmill for 30 minutes a day. To analyze the data, two-groups and multi-groups comparisons were used in the inferential statistic and assumptions evaluation parts, using GraPhpad Prism and SPSS-16 software ($P \leq 0.05$). The results showed that the magnesium group differed significantly with the control and exercise groups (14.3%). In addition, the magnesium-exercise group was significantly different with the control and exercise groups in terms of brain growth (13%), although this was more related to magnesium element. It was revealed that taking a millimol of magnesium for oneweek greatly affected rats' qualitative brain growth

کلمات کلیدی:

growth, magnesium, treadmill, rat

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