

Kanoknithi Bualuang 2015: Effects of Ferrous Sulfate on Mountain Bike Athletes Performance. Master of Science (Sports Science), Major Field: Sports Science, Department of Sports Science and Health. Thesis Advisor: Miss Apasara Arkarapanthu, Ph.D. 89 pages.

The research aimed to study the effects of ferrous sulfate on mountain bike athlete's performance. Subjects were twenty mountain bike athletes, aged 20-40 years old. Blood samples were collected for hematological analysis (Hb, MCV, MCHC, serum iron, transferrin saturation, TIBC, serum ferritin). Maximal oxygen consumption (VO₂max) was tested and maximal workload of the test was obtained. One week afterward, 30 km time trial mountain bike racing was performed. Then the subjects were divided equally into two groups. The experimental group (T) had taken ferrous sulfate and the control group had taken placebo (C) three tablets per day for twelve weeks. After that all of the parameters were determined again for monitoring the changes. The collected data were statistically analyzed for the difference of the means and for the relationship among the parameters. Statistical significance was set at $P < 0.05$.

Results showed that the subjects who taken ferrous sulfate for twelve weeks (T) revealed a significant better Hb, MCV, MCHC, transferrin saturation, serum ferritin, VO₂max and time for 30 km mountain bike race. Whereas experimental group who had lower serum ferritin (Ta) revealed a significant better Hb, MCV, MCHC, transferrin saturation, serum ferritin, VO₂max and time for 30 km mountain bike race. Moreover, the experimental group who had higher serum ferritin (Tn) also revealed a significant better Hb, MCV, MCHC and transferrin saturation. Therefore, the results of this research will be an information for coach to consider ferrous sulfate as a supplement to increase mountain bike athlete's performance along with training in the future.

Student's signature

Thesis Advisor's signature