

## Effect of Poly Phenols in Enhancing the Swimming Capacity of Rats

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### Abstract

#### **Background:**

Increased physical activities elevate reactive oxygen species (ROS) leading to dysfunction and integrity of cells thus inducing oxidative stress which intern may affect overall physical performance. Polyphenols are well known for their excellent antioxidant potency. In this study, the effect of selected polyphenols with established health benefits viz., catechin, chlorogenic acid, ellagic acid and quercetin was investigated with respect to swimming performance in rats.

**Methods:** The animals were force fed with aqueous mixture of polyphenols at 25 mg/rat/day and subjected to swimming exercise until exhaustion.

#### **Results:**

Rats fed with poly phenols showed a significant increase in swimming time, and the activities of Lactic dehydrogenase (LDH) and creatine pyruvic kinase (CPK) were lowered. Polyphenols increased the concentration of Adenosine triphosphate (ATP), glycogen in muscle lowered the activities of and. Polyphenols increased the concentration of Adenosine triphosphate (ATP) and glycogen in muscle and reduced MDA levels in the liver, muscle and blood but increased DNA and RNA concentration in muscle.

**Conclusion:** The results clearly demonstrated combination of polyphenols used enhanced the swimming performance of the rats.

**Keywords:** Polyphenols, Exercise capacity, ROS, ATP, Catechin, Chlorogenic acid, Ellagic acid and Quercetin.