

The Effect of High Intensity Resistance Training Performed in the Speleotherapy (Salt Cave) Environment in Olympic National Boxers on Body and Some Physical Parameter Abilities

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ABSTRACT

Aim: The purpose of the research is to examine; high intensity resistance training in the speleotherapy (salt cave) environment which has an effect on body composition, punch speed, jump, reaction time, hand grip strength, VO₂ max and balance parameter abilities in elite boxers.

Material: Research in Turkey championship in the National team selected and 12 male boxers Olympic in the National team preparing for the 2021 Olympics in a different weight class categories (Xage = 22.08±2.10 years, Xheight = 181.61±8.65 cm, Xbmi of = 31.39±15.81 kg / m², Xweight = 82.31±18.55 kg) participated in the study voluntarily. In an area created with resistance training equipment in the Salt Cave in Çankırı, the training consisting of 8 functional movements, divided into 2 sections prepared by the researchers conducting the study, for the Boxing National team before the 2021 Tokyo Olympics, for 12 days, 3 days a week between 10:00-12:00 has been applied. SPSS 22.0 package program was used for statistic analysis. T-test was applied for related samples of the difference between parameters obtained from the research group. It was determined at p<0.05 level of meaningfulness.

Results: As a result, it has been observed that high-intensity resistance training applied to elite boxers in the Salt cave environment has a positive effect on punch speed, jump, reaction, VO₂ max and balance parameter abilities.

Keywords: Sportive Performance, salt cave, physical-physiological tests

INTRODUCTION

Rock salt is one of the crucial sources of salt in the world and it is vital for us living creatures. Rock salt caves in the world are used for speleotherapy, fine arts applications, tourism, recreation and storage purposes as well as salt extraction ¹. When we examine the caves where rock salt mines are extracted today, it is seen that alternative medicine methods for speleotherapy are used for sports tourism-recreation purposes related to sports activities ².

Speleotherapy (in Greek "speleon" means cave and "therapy" treatment) is the use of karstic caves or residual galleries from mine (salt, potassium, etc.) enterprises for therapeutic purposes ³. As mentioned, both karstic and different mining enterprises have been investigated in terms of its curative (therapeutic, therapeutic) effect. Yet, it has been proven that speleotherapy is much more effective in salt mines ⁴.

Salt therapy (speleotherapy), which has become more and more widespread recently, has progressed and gained importance in many countries today. Today, there are medical clinics in underground salt caves in 15 countries. The best known of these clinics are Nakhchivan in Azerbaijan, Wieliczka in Poland, Soligorsk in Belarus and Çon-Tuz in Kyrgyzstan. In order to meet the accommodation needs of the patients who come to the clinics, there are hotels etc. just above the caves, inside or in their immediate surroundings and structures were built ⁵.

Most of the countries with salt caves have added sports tourism-recreational activities; rehabilitative alternative medicine methods as well as contributing to health tourism with the treatment of asthma diseases ⁶.

Body composition and physical-physiological

parameters; have been the subject of research in elite athletes so far in sports activities ^{7,10}. In order to emphasize the importance of evaluating body composition, physical-physiological factors in the training environment during the preparation period for high-level competitions, it is thought that the exercises performed in sodium chloride environment, which is seen as the reason for our research, have effects on the body composition and some physical parameters of elite athletes ⁸. In the salt cave environment (speleotherapy) of our athletes who need different gains especially during the Olympics, the gas components in the air, low relative humidity, increasing negative ion content, bacterial flora and the absence of air allergens, slightly increased carbonic acid content, with a certain air flow, It is aimed to increase their performance with the effect of the self-cleaning feature of the environment ⁹. In this context, the purpose of the study is the effect of high-intensity resistance training in a speleotherapy (salt cave) environment on body composition, punch speed, jumping, reaction time, hand grip, VO₂ max, and balance abilities in elite boxers.

MATERIAL & METHODS

Study Group: For the research; actively Boxing engaged and Turkey selected by the national team technical committee according to their weight from their participation in the championship was elected to the Turkish national team depends on the London Quota uptake and participate in an International Champion 12 male adults National team boxers (Xage = 22.08±2.10 age, Xheight = 181,61±8.65 cm, Xbmi = 31.39±15.81 kg/m², Xbw = 82.31±18.55 kg) voluntarily participated. Test procedures are fully explained