Determination of the Excretion of TSH, T3, T4 Hormones in Blood According to the Pulse Index (160) for Female Tennis Players of Kufa University

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Abstract

The research included a number of axes focused on these axes on the analysis of the hormones involved in the study and this is by giving a particular effort to raise the pulse to 160 N / d where the pulse is measured after an exercise or effort to raise the pulse of the player and when the completion of exercises The pulse is measured by the player through a device to measure the pulse and when the arrival to the pulse specified blood is drawn to the player and then the analysis of the hormones involved to study at the pulse of the specific measurement and know what changes in these hormones at this pulse and after the analysis in the laboratory allocated and a special device The results are collected Obtained and then deal with these results statistically to extract what extent attributed the changes that have taken place for these hormones for each player. The results showed that there were clear changes in hormone levels at pulse 160 and these changes vary from one player to another.

Keywords: Sports Performance, Thyroid hormone analysis (T3, T4), Thyroid stimulating hormone (TSH) and effect of hormones on pulse index (160).

Introduction

The study of the physiology of sports in physical education and sports sciences is one of the most important scientific applications that have helped to achieve high mathematical achievements, and that the physiology of the human body is one of the most important science that has developed at a great pace, making this science occupies a large part in the science of life, [1] some physiological indicators are used to regulate training loads, such as the heart after performance, to determine the effect of the training load, its severity, and the body's response to the degree of performance intensity.

The rest periods are also determined according to the period during which the heart rate returns to the nearest normal condition, [2] scientific studies have shown that the formation of the training load without studying its physiological effects on the body often leads to the pathological injuries that appear during the training season.

“There is a close relationship between the positive practice of physical activity, physical orientation and physical fitness, which determine the different qualities through the functional potential of the body organs. [3]

The trainer must be aware of the ability to properly regulate training loads so that these loads do not lead to a negative impact on the functional situation and therefore reflected on the state of health sports.

Due to the importance of sports physiology and the extent of its influence clearly on the levels of sports, we went to study one of the physiological and important problems that must be clear to the athlete in general and the trainer in particular(Study of hormones and their secretions and their effect according to pulse index, especially hormone TSH, T3, T4 and their secretions in blood).The study aims, at identifying the effect of the secretion of the three hormone secretions under study according to pulse index 160.
The Benefit of the Study

Taking a blood sample from the player after the exertion or performance of the athlete and analysis of thyroid hormones involved in the study (T3, T4) and the hormone stimulating hormone (TSH) to determine the effect of the pulse at 160 pulse /min

Research methodology

Requires the researcher to "choose a particular methodology that is consistent with the nature of the problem, [4] therefore, the researchers used the descriptive method in the survey method because it is the closest to the nature of the problem and the goal to be achieved and also suitable for the method of research procedures, As the appropriate approach is one of the most important steps that result in the success of research. [5]

Sample of Field Research Procedures

Sample research: A sample is a "subset of the study society that is selected in a certain way,[6] the researchers identified the University of Kufa Tennis (College of Education for Girls) as the same research (research community) and the research community is a systematic term called the vocabulary on which the results of the study,[7] it consists of (5 players) and the team (the community) was taken completely as an eye for study, because of the national team. And then the sample was taken to the place of the test and the researchers explain the way the performance of the test in a sequential order to form an integrated idea in the sample and performance correctly.

Determine the Practical Tests

The researchers conducted several interviews with a number of sports training specialists to determine the practical tests through which the desired results are obtained.

The Test of Pulse 160

The test ran 100 m fast speed to the height of the pulse of the heart to the player to a pulse of 160 beats / minute, each player of the sample vary in response to the equipment and physiological changes from the other so the speed is different between them, but must be reached the pulse required.

Implementation of Tests

- Preparing the work teams
- Dr. Ahmed Jassim specialized in pathological analysis (Abbas Sahib Laboratory) and Dr. Assistant (Ahmed Kazem) specialized in sports training
- Preparation of all devices used and necessary for testing:
- Pulse and pressure measuring device (Japanese-made)
- Stopwatch number (2) - Chinese camera made - Japan-made CENTRIFUGE blood isolation system
- Japanese Mini VDAS (Mini VDAS) - a US-made laptop (HP) device
- Preparation of the sample and working teams Assistant - Explain the performance and methods of tests for the sample.

The Test was Carried out According to the Following

Test under pulse 160: The researchers explained the test and explained a simple sample of the sample before the start of performance, and then set the sample to perform the test to raise the pulse to 160 beats per minute.

After each performance, the player will perform the specific test by the specialists to raise her pulse to the desired pulse (160 beats / minute). The player will run at 100 m and at a certain speed, according to the response of her internal equipment. It is equipped with the pulse device left wrist of the pulse meter and is operated to read the pulse and make sure it reaches 160 beats / minute and when it reaches the pulse required. Which is (160 pulse / minute) as shown in Figure:

Figure 1: Shows its readers the device to pulse two players of the sample
And then prepare the player to draw the blood noticed by the specialist doctor where the blood is withdrawn by (5 m) and placed in a special tube.

Every female student writes her name on this tube after placing blood in it to know that this is the blood of this player.

The other player is then trained to perform the test in the form and manner in which the first player was led. Thus, the test was performed on the entire sample in this way. After the completion of the test, the blood samples were taken to the laboratory to carry out the examination of the hormones identified by special medical devices so as to obtain accurate results for the test. After the specific hormones were analyzed in the laboratory, the results were as follows: After analyzing the specific hormones in the laboratory / in the case of pulse speed 160 the results were as follows:

Table 1: Shows hormone values at pulse 160

<table>
<thead>
<tr>
<th>Processors</th>
<th>TSH</th>
<th>T4</th>
<th>T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.23</td>
<td>92.86</td>
<td>1.01</td>
</tr>
<tr>
<td>2</td>
<td>1.16</td>
<td>84.71</td>
<td>1.14</td>
</tr>
<tr>
<td>3</td>
<td>1.69</td>
<td>88.26</td>
<td>1.82</td>
</tr>
<tr>
<td>4</td>
<td>1.39</td>
<td>101.52</td>
<td>1.94</td>
</tr>
<tr>
<td>5</td>
<td>1.76</td>
<td>64.81</td>
<td>1.61</td>
</tr>
<tr>
<td>Mean</td>
<td>1.45</td>
<td>86.43</td>
<td>1.5</td>
</tr>
<tr>
<td>LSD</td>
<td>0.5</td>
<td>14.6</td>
<td>0.8</td>
</tr>
</tbody>
</table>

The above results were obtained through the test, which showed us what is the proportion of hormones per player under the pulse (160).

Data Analysis and Statistical Processing

The researchers used the SPSS system to measure the differences between treatments based on heart rate 160 using measurement analyses and extraction of LSD value where the mean differences in favor of value 5 for TSH.

LSD (0.5) For T4, the significant difference in favor of value 4 was LSD (14.6). For T3 hormone, the significant differences in favor of treatment 4 were LSD (0.8). We also note in the table above that the lowest value and highest value of the hormone (TSH = 1.16, 1.76) is within the normal limits (0.25-5) ml / ui and the lowest value and highest value of the hormone (T4 = 64.81, 101.52) 120) and the lowest and highest value of the hormone (T3 = 1.14, 1.94) falls within the normal limits of the hormone (0.9-2.33).

Conclusions

- The difference is not required to be the same person and this is evidence that changes in the hormones process is general and not for a person.
- The study proved that the relationship between (TSH) and (T3, T4) is a relevant relationship and not an inverse.
- Under this pulse mentioned that the changes are negative (negative) This means that the increase in pulse get changes and mean hormones are free of the influence of the nervous system and turn into the work of the hormonal system.

Recommendations

- Attention to know the proportions of hormones in the body, which is affected by
the effort and sports training, which would lead to the rise of the pulse of athletes, the trainers must measure ratios and control within the normal ratios of the human and thus help the athlete to overcome the effort.

- When the training situation or when the development of a specific training plan by the coach must take into account the hormonal changes that occur because of pulse change, which increases with the effort or training.

- Interest in exercises that maintain the strengthening of the heart muscle, which helps to increase the pulse slow, which in turn is a good indicator of the impact on the proportions of hormones in the body.

- Providing the necessary equipment for medical tests and teams and medical staff of the sports teams.

References