THE EFFECT OF NUTRITION USING SATURATED AND UNSATURATED FATS ON ENDURANCE FOR ATHLETES APPLYING FOR CLUBS

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Abstract

Nutrition is one of the most important basics to ensure athlete's susceptibility and readiness to perform a physical effort, activity and production through which he can achieve good results to reach the hoped goals. In addition, the health status of the athlete is affected by food type and nature, so this requires concern with all details of food. It is known that nutrition with fats is one of the most important methods of providing players with energy especially in games which require physical effort and relatively longtime periods in this effort (aerobic games). Fats are used by the body in energy production through the aerobic physical effort, so the researcher made this study to identify the effect of having foods containing saturated and unsaturated fats on endurance level through identification of the maximum susceptibility of oxygen consumption.

The researcher selected a set of players divided into two empirical groups. A pre-test was made for both groups. Next, for a period of two weeks the first groups had foods containing great amounts of saturated fats in the form of animal fats, dairy derivations and others. The second group had foods containing great amounts of unsaturated fats in the form of foods containing vegetable oils, nuts and others for the same period of the first group. After that, post-tests were made for both groups.

After statistical treatments of testing results, results referred that the first group that used saturated fats showed an ability to perform physical effort and endurance possibility more than the second group which depended on unsaturated fats in nutrition. From these results, the researcher concluded that athletes who depend on foods containing saturated fats have more susceptibility to consume oxygen than athletes who depend on foods containing unsaturated fats. Accordingly, this is an indication to the player's ability to endure stamina during playing. The researcher also recommended that it is necessary for athletes to have nutrition according to the type of practiced activity and depend on foods containing saturated fats, especially when it comes to those who practice games characterized by long activity practicing periods.

Keywords: Athletes nutrition / saturated and unsaturated fats

1. INTRODUCTION & IMPORTANCE OF THE STUDY:

Fatty acids are one of the most important sources of energy that a body cannot generate, so they are required such as the linolic and linolenic acids. This can be done through foods containing these acids. Saturated fats are considered unhealthy foods especially in case of having great amounts of them compared with foods containing the same percentage of unsaturated fats, especially when one grows older and the physical effort level decreases. Saturated fats are found in meats and dairy products. As for unsaturated fats, they are found in vegetable oils, nuts and others.

Concerning athletes, having fats is very important with looking to physical effort exerted by athletes continually, especially in aerobic sports that depend on oxygen to produce energy. The body starts fats consumption when physical effort lasts for a relatively long period. Because there are no studies about the effect of having fats on an athlete's susceptibility to perform physical effort (stamina), any type of fats affecting more the increase in physical ability of endurance, the study conducted this empirical study on a sample of football players in Iraqi clubs through identifying maximum oxygen consumption limit (VO2MAX), (1981,120-150 DAL MONTE,A). This is considered an indicator to the ability of aerobic endurance stamina. Maximum oxygen consumption is the maximum size of consumed oxygen in liters or milliliters in a minute VO2. The maximum oxygen consumption limit is a term that is synonym to other terms such as the circulatory system, aerobic ability and endurance.

Length measurement is applied by measuring maximum oxygen consumption directly. This is done by giving a certain and graded effort each three minutes till the stage of exhaustion as gases are analyzed in exhaling and lung ventilation is counted. Using various methods, the amount of consumed oxygen is counted during exertion and it represents the susceptibility of the heart and blood vessels to provide oxygen to working muscles. Direct measurement is the most proper method to measure maximum oxygen consumption

susceptibility, but it requires complicated devices and technical abilities that are not found for teachers and trainers in addition to all types of devices. Therefore, most workers in physical education prefer using indirect methods including Copper Test that got the highest rate from experts (Guyton A. C. and Hall, 1996).

The study aims to determine the effect of having foods containing great amounts of fats on maximum oxygen consumption susceptibility (VO2 MAX) through the identification of types of fats (saturated and unsaturated fats). The researcher proposed that foods containing saturated fats have more susceptibility to consume oxygen than athletes who depend on foods containing unsaturated fats.

2. METHODOLOGY :

The researcher used the empirical method as it is proper for the nature of the study.

Sample of the Study:

The sample of football (30) players divided into (15) players for the first group and (15) players for the second group. The first group depended on saturated fats and the second group depended on unsaturated fats. The follow-up lasted for two weeks and identified the sample with some variables.

Table (1) Identification of the first and second sample:

Variables	Arithmetic Mean	Median	Standard Deviation	Skewness Coefficient
Length	176.83	177	6.23	0.56-
Weight	70.69	70	5.91	0.180
Training age	5.38	5	3.79	1.088
Time age	22.30	22	7.31	0.727

The study found that all values of skewness are found within the curve with the percentage of (±3) which refereed to identification of the study sample members in these indications in order to achieve accurate results based on correct scientific principles.

The Used Tests

1- Copper Test (walking and running for 12 minutes) to measure maximum oxygen consumption.

3. RESULTS AND DISCUSSION

Discussion of significance of differences for pre and post tests (first group)

Table (2) differences in means, deviations and the T-value of the maximum oxygen consumption. (first group)

treatments / variables	Measuring unit	Mean	Deviation	T-counted value	T-scheduled value
Maximum oxygen consumption	Meter	170.4	8.94	4.92	1.14

From table (2) and measuring scheduled t-value under temperature degree (1-15) and significance level of (0.05), we found that it equals (1.14) which is less than its counted value (4.92) and this asserts the presence statistically significant differences for the sake of the post-test. This means that the nutrition program used by the first group depending on saturated fats had an effect on increasing functional ability of the body through increasing maximum oxygen consumption.

Table (3) differences in means, deviations and the T-value of the maximum oxygen consumption. (second group)

treatments / variables	Measuring unit	Mean	Deviation	T-counted value	T-scheduled value
Maximum oxygen consumption	Meter	1.53	0.96	0.411	1.14

From table (3) and measuring scheduled t-value under temperature degree (1-15) and significance level of (0.05), we found that it equals (1.14) which is more than its counted value (0.411) and this asserts that there are no statistically significant differences for the sake of the post-test. This means that the nutrition program used by the first group depending on unsaturated fats did not have an effect on increasing functional ability of the body through increasing maximum oxygen consumption.

Discussion of Differences Significance for Pre and Post Tests (First and Second Group):

From table (2) it is clear that the arithmetic mean for differences in the first group was (170.4) and standard deviation was (8.94). During counting the t-value, it was (4.92) and this is more than comparing with the scheduled t-value (1.14). This shows that there are statistically significant differences and that the first group depended in its nutrition on saturated fats for two consecutive weeks and an average of two meals every day. This had an effect on increasing the body's functional susceptibility through Table (2) differences in means, deviations and the T-value of the maximum oxygen consumption.

From table (2) and measuring scheduled t-value under temperature degree (1-15) and significance level of (0.05), we found that it equals (1.14) which is less than its counted value (4.92) and this asserts the presence statistically significant differences for the sake of the post-test. This means that the nutrition program used by the first group depending on saturated fats had an effect on increasing functional ability of the body through increasing maximum oxygen consumption (VO2MAX) through the approved test which is the Copper test to measure aerobic ability.

From table (3), it became clear that the arithmetic mean of differences is (1.53) and standard deviation of differences (0.96). During counting the counted t-value, they were (0.411) and compared with the scheduled value, it was (1.14) which is bigger than the counted t-value. This shows that there are no statistically significant differences. This also means that the second group that depended on unsaturated fats was not affected in increasing body functional susceptibility as there was not any increase in maximum oxygen consumption (VO2MAX) through the Copper test to measure aerobic ability.

The used nutritional program showed that athletes depended on saturated and unsaturated fats for two weeks was done to achieve accurate results. Through statistical results, the hypothesis of the study was achieved by statistically significant differences between first and second group in pre and post tests which showed that having saturated fats is better than having unsaturated fats in increasing the body's functional susceptibility through increasing the athlete's oxygen susceptibility as a functional indication and a good functional ability for the body.

4. CONCLUSIONS:

1- Nutrition for athletes with food containing great amounts of saturated fats contributes in increasing functional and physical susceptibility of players compared with foods with unsaturated fats.
2- Nutrition has a strong relation with physical production of athletes and according to the type of the used activity.
3- There are food similar in the amount of calories but differ in releasing speed and leakage from the body.

Recommendations:

The researcher made the following recommendations:

1. There should be dependence by athletes, especially aerobic game athletes, in foods containing a great amount of saturated fats, instead of unsaturated ones.
2. Nutrition using saturated fats shall be few days before competitions.

5. REFERENCES

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