

(The effect of saunas at different intervals in some biochemical variables for basketball players).

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Abstract:

The research to saunas included their relationship in some biochemical variables, the removal of fatigue, and the importance of reducing the period of recovery during physical exertion, and identified the problem of research in finding some solutions, to get rid of the burdens of pregnancy on the organs of the body, as a result of the effort, including the use of saunas in different times, and the speed of returning the player to normal by quickly getting rid of the accumulations of fatigue represented by lactic acid and creatine enzyme, as well as the elimination of psychological effects on different organs of the body. Which is one of the priorities of the trainers, and the goal of the research to identify the effect of saunas in different times in some biochemical variables (lactic acid, creatine kinase), the researchers hypothesized the effect of saunas on a range of variables using different periods of time, while the research sample was the players of the specialized school / Diyala years (17-18) years, and the results of the research were processed statistically by statistical transactions using the statistical right SPSS.

The researchers concluded that saunas in general have a positive effect on the speed of hospitalization, elimination of fatigue, feeling of pleasure, and high psychological state of athletes, and recommended the use of saunas for short and multiple periods of time in the speed of the player's reflux of his energies, and his readiness for physical performance.

Keywords: saunas, biochemical variants.

1- Introducing the search:

1.1 Introduction and importance of research:

Scientific research has a significant impact on the advancement of the level of skilled and physical performance in various sports, using advanced scientific methods in finding the best tastes, reaching the highest levels, by knowing the human abilities and different energies, and overcoming many situations that are related to the initiation of sports competitions, which are a test and evaluation of the abilities of the player, it is characterized by a high degree of intensity that leads to functional and biochemical

changes in the organs of the athlete's body, as a result of the effectiveness of hormones and their activity.

Saunas help to get rid of the body's physical exertion, and are included in the training plans at various stages, especially in the competition phase, which works to remove fatigue, raise the efficiency of functional, physical, psychological, and detoxification accumulated on the skin of the athlete.

The return of biochemical indicators and other functional devices to normal and in the least time is what an athlete needs, especially during the period of violent training, and this is what the rehabilitation process aims at.

Thus, the research contributes to the creation of the shortest and most economical methods for the athlete to return to play games, naturally, and overcome many of the physical problems he faces.

The effort exerted during the performance of various events, especially those that require high physical effort, requires quick and easy methods, to get rid of the effects of training pregnancy, speed of hospitalization, and to restore biochemical indicators to normal, as well as to eliminate the psychological effects on different organs of the body, and because the researcher is a basketball player has found that returning to normal and in a short time and restoring functional indicators to normal is a priority of the trainers, so the researchers considered the research to find solutions to get rid of the burden of effort on the body organs.

The research aims to identify the effect of saunas in different times in some biochemical variants (lactic acid, creatine-kinase enzyme).

Research methodology and field procedures:

2.1 Research methodology:

The appropriate approach is one of the most important steps that results in the success of the research, as the curriculum depends on the nature of the problem the goal to be achieved (Mohammed, 2000:259), so the researchers used the experimental method in a method of tight control (experimental - controlled) for its suitability and the nature of the solution of the problem.

2.2 Research sample:

The sample of the research was selected in the deliberate manner of the basketball players, the 15 players of the Diyala basketball team, who randomly divided into three groups by (5) players for the first, second and control experimental groups.

2.3 Methods and devices used in the search:

2.3.1 Means of collecting information:

1. Arab and foreign sources.
2. Interviews.
3. Information collection form.
4. Assistant staff.
5. The Internet.

2.3.2 Devices and tools used:

Through the search tools that the researcher mediates, the researcher can collect data and solve the problem, to achieve search objectives whatever the tools of data, samples, and devices (Mikhail, 1996: 103).

1. Empty syringe, number (30).
2. Test tubes, number (30).
3. Medical cotton.
4. Medical adhesive.
5. Alcohol.

2.4 Steps of search procedures:

2.4.1 Identification of search variables:

After reviewing many scientific sources and references, the variables that dealt with lactic acid were identified, as both (Abdel Fattah, 2003) and (Hashmat and Chalabi, 2003) agree that lactic acid is meant to be the unusual aggregation in tissues and body fluids, as the lactobacillus is produced from sugary substances during its milky fermentation, Due to the decomposition of sugar with the lack of oxygen contained in the muscles, and the proportion of muscles increases during an aerobic muscle effort, astheconstrictions lead to the contraction of blood vessels, leading to increased production of lactan, which is one of the factors leading to muscle fatigue (Abdul Fattah, 2003: 227), (Hashmat and Chalabi, 2003:47).

Creatine Keynes (CK),an important enzyme in theprocess of building ATPin thephosphagen system,is one of the key measurements that are highly important and sensitive in estimating the actual adaptation of specialized sports activities(Yuan,2007), and thatthe rise in this enzyme is due to unusual physicalwork, which lasts long and high (Yuan,2007: 105).

2.4.2 Tests used:

(2) cm was withdrawn for each member of the sample after the game (after the effort) and after (7) minutes, which is the best time to draw blood aftertraining or test (3-12) minutes, to give a chance to transfer lactic acid to muscles (Ernes,2003: 59).

The amount of blood drawn was then placed in a special test tube containing an anticoagulant substance with an airtight lid Ethyl Di Amine Tetra Acid (EDTA), the concentration of lactic acid in the blood waslaboratorialassessedbygrainerand bycolorimetric(LOD-TEST),and the concentration of creatine cans (CK) was assessedpractically by theMACHINE (Cobas)mediated by CK-MB,and supervised by medical staff.

2.5 Exploratory experiment:

The researchers conducted the survey in conditions similar to the main experiment, to identify:

1. The efficiency of the assistant team.
2. The validity of the devices and tools used.
3. The response of sample members.
4. Calculate the time required.
5. Knowledge of the constraints.

2.6 Pre- Tests:

Pre tests were conducted with the help of the auxiliary team, with samples of lactic acid and creatine keynese being withdrawn and data recorded in a special form.

2.6.1 The curriculum used:

After agreeing with a group of experts and specialists in sports rehabilitation, the first experimental group uses twosaunas on three periods (sessions) time (10) minutes, and the rest period between each period (5) minutes, while the second group uses saunas on two periods (two sessions) time (15) minutes, between them a break of (10) minutes, while the group leftthe depression without usingsaunas.

The curriculum used lasted for two months with (3) sessions per week.

2.6.2 Post- tests:

After the completion of the method used (saunas) for both groups, post tests were performed on the three groups to take the statement on the concentration of lactic acid and the concentration ofcreatine-cayenne enzyme, and the data were recorded in a special form prepared in advance.

2.7 Statistical means:

The researchers used the statistical bag to extract and analyze statistical data.

3.1 Presentation, analysis and discussion of the results:

View and analyse the results:

Table (1)

Shows computational circles and standard deviations of research variables in pre- and post-tests

Variables	Groups		Arithmeti c medium	Number of sample members	Standard deviation	Standard error
Lactic acid accumulat ion	The first pilot	Previous	12.740	5	0.420	0.188
		Next	8.200	5	0.158	0.070
	Experimen tal II	Previous	12.070	5	0.567	0.254
		Next	9.040	5	0.364	0.163
	The command group	Previous	12.004	5	0.622	0.278
		Next	8.880	5	0.477	0.214
Creatine Keynes	The first pilot	Previous	2.868	5	0.086	0.0384
		Next	2.694	5	0.067	0.030
	Experimen tal II	Previous	2.938	5	0.154	0.069
		Next	2.509	5	0.270	0.120
	The command group	Previous	3.018	5	0.137	0.614
		Next	2.760	5	0.167	0.788

Table (1) shows that the values of the computational circles, the standard deviations of the research variables and the periods of use of saunas are different for the experimental and control groups, confirming the occurrence of what they were in the pretest.

To identify the differences between the computational circles of the pre- and post-tests of the experimental and experimental groups in question, the researchers adopted a test (t) for non-independent samples, to verify the significance of the differences, and the results showed a moral difference in favor of the post testing of the experimental and control groups, as noted in table (2).

Table (2)

The average difference, deviation of the difference and the calculated (t) value between the pre and post-tests of the research groups are shown.

Variables	Groups	Q.F.	P.P.	Calculated	The significance
Lactic acid accumulation	Experiment A	4.270	0.463	20.610	0.00
	Experiment B	3.030	0.315	21.479	0.00
	Control group	3.124	0.303	23.077	0.00
Creatine Keynes	Experiment A	0.174	0.028	13.735	0.00
	Experiment B	0.429	0.78	3.452	0.026
	Control group	0.259	0.205	2.819	0.084

Table (3)

The analysis of the variance and the calculated value (F) of the post-tests between search groups

Variables		Total squares	Degree of freedom	Average squares	Calculated T	The significance
Lactic acid accumulation	Between groups	1.989	2	0.995	7.726	0.007
	Out-of-group	1.545	12	0.129		
	Total	3.534	14			
Creatine Keynes	Between groups	2.14	2	0.107	4.882	0.028
	Out-of-	0.263	12	0.022		

	group				
	Total	0.477	14		

Table 3 shows that the error ratio(F)valueswere below the indication level (0.05), which indicates the morality of the differences between the groups, and therefore compensation in the lower moral difference value test, theL.S.D. testforsearch variables.

Table (4)

LSD value shows the lowest moral difference between variables for search groups

Variables	Groups				
Lactic acid accumulation	Experiment A	Experimental	0.840-	0.227	0.003
		Control	0.680-	0.227	0.011
	Experiment B	Experimental	0.840	0.227	0.003
		Control	0.160	0.227	0.494
	Control group	Experimental	0.680	0.227	0.011
		Control	0.160-	0.227	0.494
Creatine Keynes	Experiment A	Experimental	0.215-	0.227	0.040
		Control	0.636-	0.093	0.510
	Experiment B	Experimental	0.215-	0.093	0.040
		Control	0.279-	0.093	0.011
	Control group	Experimental	0.636	0.093	0.510
		Control	0.729	0.093	0.011

Table (4) Shows the results of a moral test of differences under the lowest moral difference (L.S.D),toachieve the state of moral differences compared to groups in the concentration of lactic acid.

The investigative value (0.003) is smaller than the approved indication value (0.05), i.e. the moral difference for the experimental and control groups, for the benefit of the concentration of lactic acid and for the benefit of the second experimental group, as shown by thevalues of differences for the media, which amounted to (*84.000-), the standard error (*22.694-) and the difference between the experimental group The first and the first is that the investigative value (0.003), which is smaller than the value of the approved indication (0.05), i.e. the moral difference between the experimental group and the first and the control in the concentration of lactic acid and for the benefit of the first experimental group, and this is what the values of the differences for the computational circles, amounting to (*84.000) and the standard error was (*22.694).

In the difference between thetwo experimental, first and second groups, the investigative value was found to be (0.01), which is smaller than the value of the approved indication (0.05), i.e. the moral difference between the two groups and the interest of the first experimental, as shown by the difference values of the computational circles.

The investigative value between the first and second groups (0.011) was smaller than the value of the indication level, indicating that there were moral differences and for the benefit of the first experimental group.

In the creatine-cayenne variant, the investigative value between the second experimental group and the control was (0.040), which was higher than the indication level (0.05), indicating that there were moral differences, as confirmed by differences in mathematical circles. In the difference between the first experimental group and the control, the investigative value (0.040), which is smaller than the indication level (0.05), which is smaller than the value of the adheus (0.04), indicates that there are moral differences in the concentration of the first and second experimental groups (0.010), which is greater than the indication level, indicating that there are no moral differences between the two groups in the concentration of The AinCayenne.

3.1.2 Discussion of results:

Table (2) shows that there are statistically significant differences and for the benefit of the first experimental group, which used saunas at varying intervals, the researchers attribute this to the fact that the saunas used by the first experimental group (3 periods) led to a decrease in the rate of blood pressure, and a return to normal after the rate of creatine phosphate also decreased, as confirmed (Clifford Hawkins, 1985) that sitting approximately (10 minutes) at a time at a time The sauna bath leads to a decrease in creatine phosphate, which leads to a decrease in creatine cayenne, and pressure is released for 20-25 seconds, allowing blood flow, which in turn leads to the elimination of lactic acid, thus increasing the physiological responses to heat, such as: rate, pulse, dilation of dermal blood vessels, increased heart output, and decreased diastolic pressure (Clévardns, 1985). 18, 73.

A. Discuss LSD values for search group variables:

The second experimental and control groups:

Table (4) shows that there are differences in the level of indication and in the interest of the second experimental group in the concentration of lactic acid, and the researchers attribute that the positive change in the indicators of fatigue (lactic concentration), which has emerged a development indicating that saunas contributed to the reduction of the period of hospitalization after work, and this is consistent with (Abbas, 2011) that the post-operative recovery period is a key complementary factor to the physiological adjustment needed to raise the level of performance, ignoring the healing period, and lack of attention to it (means of help), will inevitably lead to fatigue, and lack of opportunity will lead to lack of progress (Abbas, 2011: 35).

The first experimental and control groups:

In these two groups there appeared moral differences and for the benefit of the first experimental group, the researchers attribute that the muscles working after the effort must take the necessary time for them, to restore healing, and this is consistent with (Houglum, 2016) that the muscles must get enough healing between the units to work well, and the muscles need more than (90) minutes to recover fully, and that saunas have reduced the time period to restore their ability to work (Houmglu, 2016: 62).

The first and second experimental groups:

The difference was moral and for the benefit of the first experimental group, and the researchers attribute this to the fact that the use of saunas in different times (short) works to get the muscles rid of waste faster, especially lactic acid that accompanies sports training, and works to regulate and improve the work of regulating energy in muscles and cells, and this is consistent with Christopher (Christopher, 2013) that Positive recovery accelerates muscle recovery, pain relief, and increased circulation, which helps improve the local nutrition of the affected muscles, which helps in the secret of reconstruction and waste disposal, as athletes use essentially positive comforts to reduce fatigue and restore healing between competitions (Christopher, 2013: 194).

2. Creatine Cayenne Co., Group:

The second experimental group with the control group:

There are moral differences between the two groups and for the benefit of the second experimental group in the speed of elimination of the enzyme creatine cayenne, the researcher attributes this to the fact that the use of all means of hospitalization leads to the speed of the recovery of the player's energy, especially after the effort and high level training, this is confirmed (Yuan Qing, 2007) Creatine Cayes is a very common and sensitive indicator in sports training, and any high-intensity training will appear in the serum with a change in creatine concentration, making this measurement very important for assessing the training load (Yuan Qing, 2007: 100).

B. The first experimental group and the control group:

There were moral differences in favor of the first experimental group, and the researchers attribute these differences to the fact that saunas used to thank medium and multiple periods of time lead to the expansion of blood vessels, and this leads to increased blood flow, and reduce the level of creatine cayenne enzyme, which contributes at its natural limits to improve performance, and this is consistent with (Baird, Et al, 2011) Creatine Cayenne has a vital and important role in the body, as well as energy production in the body, which makes it necessary for the proper functioning of most tissues and organs, and has dora in stimulating muscles, facilitates the transfer of energy, and the formation of thirty adenosine, as opposed to its height which leads to health problems, such as: myocarditis, trauma and damage to the bone system, nerve damage (Baird, et al, 2011: 21).

2. The first experimental group with the second experimental group:

In this group there are moral differences and for the benefit of the first experimental group (the group that uses sauna in the form of multiple short periods), and the researchers attribute this to the positive change in overcoming the manifestations of fatigue, the concentration of lactic acid and creatine enzyme cayenne has improved, which in turn leads to improved exertion Muscle strength, improved motor performance, early return to activity, consistent with (British International Journal of Science, 2020) the low level of lactic acid and almost all acids (10) minutes, as the lactan of muscles spreads in the blood (British International Journal of Science, 2020: 256), followed by a Korean cycle, which recovers lactic acid in the blood as it occurs quickly return to balance,

compensation of oxygen debt, and elimination of the pain of muscle fatigue resulting from the accumulation of residues in the muscles and blood, and the increased performance with the use of active means of hospitalization in a short period, increased sense of pleasure, and elimination of psychological pressures resulting from the effects of fatigue and pain, this is confirmed (Clifford Hawkins, 1985) that aches and pains calm down and many enjoy saunas, because they bring calm and feeling well-being, the sensations that may be due to high endorphins in response to high temperature (Clifford Hawkins, 1985:98).

Conclusion:

4.1 Conclusions:

1. Saunas generally have a positive effect on the speed of hospitalization and the elimination of muscular fatigue.
2. The use of saunas in the form of short and multiple periods of time is better than the use of saunas with relatively long periods of time.
3. Saunas have a positive effect on the sense of pleasure, and the high psychological state of athletes.

4.2 Recommendations:

1. Use of saunas with short and multiple periods of time to remove the effects of fatigue and muscle pain.
2. Use of saunas to reduce recovery periods and speed of recovery.
3. Subjecting players to periodic laboratory tests, as they play a role in determining the athlete's readiness for physical performance.

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