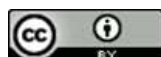


DOI: <https://doi.org/10.54702/2waqtq63>**The reality of sports nutritional culture and its contribution to some biochemical indicators among youth runners running distances (400, 800) and (400) meters hurdles for young**Liqa Abdul Zahra Obaid ⁽¹⁾ ✉, Maryam Abdul-Jabbar Khudair ⁽²⁾ ✉, Sarah Hikmat Abdul Salam ⁽³⁾ ✉

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Abstract

The research aimed to identify the level of sports nutritional culture among young 400, 800, and 400-meter hurdles runners, and to identify the relationship, contribution, and impact of sports nutritional culture with some biochemical indicators among 400, 800, and 400 meter hurdles runners. Youth, the descriptive approach was adopted using the correlational method, and the boundaries of the research community were represented by young runners in the (400, 800) and (400) meter hurdles events, representing the players of the (19) Iraqi clubs, with a total number of (114) runners actually participating in the competition. The 2023 sports season qualifiers were held by the Central Iraqi Athletics Federation, from whom (50) runners were randomly selected to represent the main sample, with a percentage of (43.86%), and (30) of them were runners for foundations and scientific transactions, with a percentage of (26.316%) from their community of origin, and (10) of them were runners for the survey sample (8.772%) from their community of origin. The survey was conducted by applying the Sports Nutritional Culture Scale, measuring the metabolic rate (RMR), blood hemoglobin, and the time to which the anaerobic threshold appeared. Then, data for each runner from this sample was collected for each From the scale, tests of the three biochemical indicators, and treatment with the SPSS system, the conclusions were that young runners who ran distances (400, 800) and (400) meters hurdles need to increase their sports nutritional culture, and they need a better level, and that the culture of prevention and nutritional health awareness is better than other fields. Nutritional culture, and they need education on nutritional and weight problems more than others. Sports nutritional culture is linked, contributes, and has a positive effect on the basal metabolic rate, the time of emergence of the anaerobic threshold, and hemoglobin in the blood, among runners who ran distances (400, 800), and (400) meters hurdles among young people, and this achieves one of the sustainable development goals of the United Nations in Iraq which is (Good Health). and it was The most important recommendations are that it is necessary to pay attention to spreading the culture of sports nutrition among young runners of distances (400, 800) and (400) meters hurdles, because of its positive impact on all biochemical indicators (basal metabolic rate, time to the appearance of the anaerobic threshold difference, and blood hemoglobin.

Keywords

sports nutrition culture, biochemical indicators, running (400 and 800), (400) meters hurdles.**Introduction:**

The topics of nutrition and nutrition are very broad because of their connection to the formation of man and his life, and all the processes of demolition and construction governed by various

biological control systems and the complex chemical processes of metabolic metabolism, or what is expressed as cellular metabolism, which depends primarily on the type of nutrition and the nature of the body's movement and its daily

system of work, and this importance has been given. Numerous studies have been conducted in various scientific disciplines with diverse orientations, and it has become clear that the various studies are concerned with nutrition components or elements, or the nutrition pyramid and the compounds it contains, and programs for weight gain and weight loss. Perhaps more important than that is determining the extent to which track and field runners benefit from these studies and what Proven scientific facts that may help them organize their diet according to what is required by the type of physical activity they practice in their daily routine. (Abu Saleh, et al.) Pointed out that “in the early stage of a young person’s life, great and rapid changes occur to complete his growth, so his body is in dire need of an abundance of healthy balanced nutrition, but it is unfortunate to see that at this particular stage, young people tend to stuff their stomachs with meals.” “Fast nutrition s that provide little nutritional value, but at the same time contain ingredients that are harmful to the body such as fat, salt, sugar, preservatives, additional flavors, colorings and nutrition dyes.” (3). As (Mahmoud and Dania) emphasized, “New or proper nutrition, in other words, at all times is essential for an athlete’s excellent performance, even if the sport is seasonal. The main nutrition and fitness requirements for athletes are very similar to those of the average person. Quality of life and the basics for achieving it do not differ from one person to another.” However, there are some minor differences, and it is possible to say that they are minor modifications that are required for the average person before entering the competition in order to enhance his performance.” (14). Also, (Al-Hamam) considered “a comprehensive and balanced diet in its elements or components has a positive impact on the physical, health and psychological condition of athletes.” (7). (Zaher and Jaafar) pointed out, “The concept of health education and awareness means educating individuals and raising their awareness for the purpose of changing their behavior and habits, especially in the event of the spread of diseases within society, as well as instilling social customs and traditions that will support and develop the health aspect, such as practicing sports, healthy nutrition, and healthy

physical habits.” . (23). (Shawky) also confirmed that “the lack of ATP supply may be the main cause of fatigue, and the weak ability to produce ATP, which is determined by physiological mechanisms such as the ability of the cardiovascular system to supply oxygen and nutrients to the working muscles, so Biochemical determinants cannot be isolated or isolated from this.” (20). (Swartz et al.) also stated, “Hypoglycemia is the main danger that must be avoided, especially during activities that last for a long time, through the athlete’s consumption of glucose or other drinks containing carbohydrates. The danger of hypoglycemia is due to its effect on the brain’s needs for sugar.” Which causes what is called central fatigue. (21). As (Al-Ali et al) pointed out, “Every coach must follow the rules that he finds appropriate for the athlete as a basis for the success of training programs, and that nutrition is given great importance to improve the level of athletes.” (6). As (Abdel -Fattah, Abu El -Ela Ahmed) pointed out, “Nutrition culture is one of the most important things that can be acquired by an individual, during which the scope of his interests and experiences expands. Therefore, it is necessary to pay attention to instilling nutrition culture in him indirectly through role models, continuous encouragement, and the provision of guiding behavioral attitudes, and the nutrition field in recent years.” Interest in it has increased at the global and national levels due to the lack of proper nutritional awareness, and therefore the percentage of individuals who may suffer from malnutrition is not small.” (2). Whereas (Rude) urged, “It must be known that specific endurance is closely linked to the chemical changes that occur within the muscles, and the greater the adequacy of these changes, the more effective it is to continue to maintain performance while delaying the onset of fatigue stages” (17). In addition, this is what (Pickles) emphasized: “Every activity necessarily requires a state of balance and coherence in the physical characteristics or elements in order to serve the movement direction and performance requirements.” (15). (El-Sayed) and Aisha also pointed out, “Nutritional culture is important for controlling body weight, and one must be aware of the individual’s energy needs for metabolism, growth, and consumption, and the role of age,

gender, mass, and weather in them.” (8). The harm to the diet is also a result of the overlap and differences in information because of the advice promoted by various media outlets and international information network sites, some of which are not studied for the specifications of a sculpted body, which further restricts athletes to various nutritional recipes. One of the priorities of nutritional culture is knowledge of what to eat, when to eat, and how to eat. On which the diet in our lives is built, and after reviewing many available academic studies in the sciences of physical education that dealt with nutrition and nutrition, the researchers noticed that many of them are concerned with nutrition components and calories and their applications at the metabolic and biochemical level, and the abundance of research into nutritional recipes, and the lack of studies concerned with measuring The nutritional culture of runners, which is appropriate for their specialized sports activities, which caused a lack of knowledge about what psychological aspects represented by the trends, inclinations, and desires that build their nutritional culture could affect some biochemical indicators related to their physical fitness and level of achievement, which called for researchers to address this topic as an attempt to answer the following questions: Does nutritional culture relate to, contribute to, and influence some biochemical indicators among young 400, 800, and 400 meter hurdles runners? Is it possible for sports nutritional culture to contribute to each of these biochemical indicators among young 400, 800, and 400 meter hurdles runners?

The research aims to identify the level of sports nutritional culture among runners running

distances (400, 800) and (400) meters, hurdles for young people, and to identify the relationship, contribution and impact of sports nutritional culture with some biochemical indicators among runners running distances (400, 800) and (400) meters. Youth Hurdles, so that the researchers assume that the results of the Sports Nutritional Culture Scale are linked and contribute and positively influence the results of measuring the metabolic rate, the time of emergence of the anaerobic threshold difference, and blood hemoglobin among runners who ran distances (400, 800) and (400) meters, the Youth Hurdles.

Method and procedures: The descriptive approach was adopted using the correlational method, and the boundaries of the research community were represented by young runners in the (400, 800) and (400) meter hurdles running events, representing the players of the (19) Iraqi clubs, with a total number of (114) actual participating runners. In the 2023 sports season qualifiers held by the Central Iraqi Athletics Federation, (50) runners were randomly selected to represent the main sample with a percentage of (43.86%), and (30) of them were runners for scientific foundations and transactions with a percentage of (26.316%) from their community of origin, and (10) of them were runners for the survey sample, with a percentage of (8.772%) from their community of origin, because they were a sample available to the researcher in addition to fulfilling the requirements of the study procedures that they participate in the lactic energy system in their training and competitions, and as their descriptions are shown in Table (1):

Table .1 shows a description of the research community

No.	Club	400 met ers	800 met ers	400 hurdl es	No.	Club	400 met ers	800 met ers	400 hurdl es	No.	Club	400 met ers	800 met ers	400 hurdl es
1	Army	2	2	2	8	Almarkaz altakhsy	2	2	2	15	Iraq	2	2	2
2	South oil	2	2	2	9	Alkhdier	2	2	2	16	Alramady	2	2	2
3	electricity	2	2	2	10	Diyala	2	2	2	17	Alsweera	2	2	2
4	Al-	2	2	2	11	Hilla	2	2	2	18	Assyria	2	2	2

Zubair										n				
5	Althwraa	2	2	2	12	Diyalajaser	2	2	2	19	Alqurna	2	2	2
6	Baghdad oil	2	2	2	13	Mishkhab	2	2	2					
7	Saleh Castle	2	2	2	14	Wasit	2	2	2					
Total							114							

The (Obaid) Scale (2018) (16) was adopted for sports nutrition culture. It consists of (6) areas divided into (51) items. Each item has five alternatives graded in the positive direction only, with weights from (1-5), with a total score ranging from (51-255) degrees, (Appendix 1). The researchers verified the scientific conditions for the scale by applying its form as stated from the source on a sample of (30) scientific foundations and transactions, and calculating the reliability using the Alpha-Cronbach method, which amounted to (0.822) by interpreting (0.676) of the joint variance at a degree of freedom (18) and a level of significance (0.05), and the standard error of reliability reached (0.133), and validity was obtained with the root reliability as it reached (0.907). As for objectivity, the items of the scale are characterized by being closed. With five specific alternatives, and there are no open paragraphs that require an essay answer, and thus the scale was accepted as stated in its initial form. As for the biochemical indicators, the researcher adopted the latest findings of sports technology in physiological measurement, as to measure the metabolic rate and the time of the appearance of the anaerobic differential threshold, a system was adopted. The (Fitmate Pr)o device, and to measure blood hemoglobin, I use the (HumaMeter Hb^{Plus}) portable hemoglobin measurement device (Appendix 2).

The researchers conducted the main survey study at the headquarters of the College of Physical Education and Sports Sciences/University of Baghdad, Al-Jadriya, for the period extending from Sunday, corresponding to the date (1/11/2023) until Sunday, corresponding to the date (12/11/2023), by applying it to runners. The main application sample consisted of (50) runners to run distances of (400 and 800 meters) and (400)

meters hurdles, following the procedures for applying the Sports Nutrition Culture Scale:

Measurement using the nutrition culture scale:

The sample was scanned, then the scale was withdrawn from them, and the weight of each item was calculated for the chosen alternative by adopting the correction key for the items. The scores of the items were also collected to know the total score for the domain and the total score for the scale.

Measurement of biochemical indicators:

- 1- Measuring the metabolic rate (RMR): The tester sits at rest and the measurement is done using the Fitmate Pro device system, with a unit of measurement (calorie).
- 2- Measuring blood hemoglobin. The laboratory sits at rest and the measurement is carried out using a portable hemoglobin measuring device (HumaMeter HbPlus), with a unit of measurement (millimol).
- 3- Measuring the time of emergence of the anaerobic threshold: running at maximum effort for (5) minutes on a Life Fitness 97 Ti treadmill (Treadmills), and the measurement is done by the Fitmate Pro device system, with a unit of measurement (second).

After the researchers completed the measurement procedures, the data of each runner from this sample was collected for both the scale and the three biochemical indicator tests. They were processed statistically using the Social Statistical Package (SPSS) system, version (V28), (statistical package for social sciences) by automatically extracting everyone who evaluated the percentage. Percentage, arithmetic mean, standard deviation, linear (regression) coefficient, percentage contribution (contribution), standard error of estimate, (F) test for goodness of fit, slope (effect)

of the (T) test for regression, the law of the hypothesized mean of the scale, and the law of degree College for scale.

Results:

Table .2 shows the descriptive statistical features of the variables of the investigated study

	Variables	Measruing unit	Arithmetic mean	Standard deviation	Median	Skewness
Biochemical indicator	Sports nutrition culture	Degree	133.3	4.277	133	0.149
	Resting metabolic rate (RMR)	Calorie	2031.36	40.107	2020	1.642
	Time to the appearance of the anaerobic threshold (anaerobic threshold)	Second	160.7	14.674	165	-0.254
	Blood hemoglobin	mmol	11.2	1.161	11	0.326

N = 50 Normal distribution = The value of the skewness coefficient is determined between (+3)

Table .3 shows the simple correlation coefficient and linear regression

Scale	Biochemical indicator	Simple correlation coefficient (R)	Multiple regression coefficient (R) ²	Contribution percentage	Standard error of the estimate
Sports nutrition culture	Resting metabolic rate (RMR)	0.841	0.708	0.702	21.902
	Time to the appearance of the anaerobic threshold (anaerobic threshold)	0.961	0.923	0.921	4.117
	Blood hemoglobin	0.941	0.886	0.884	0.395

Significance level (0.05) n = 50

Table .5 shows the (F) test to examine the goodness of fit of the linear regression model

Scale	Biochemical indicator	Variance	Sum of squares	Degree of freedom	Mean squares	F value Calculated	Level sig	Type sig
Sports nutrition culture	Resting metabolic rate (RMR)	Regression	55796.6	1	55796.6	116.319	0.000	Sig
		Errors	23024.9	48	479.685			
Sports nutrition culture	Time to the appearance of the anaerobic threshold (anaerobic threshold)	Regression	9736.83	1	9736.83	574.397	0.000	Sig
		Errors	813.668	48	16.951			
Sports nutrition culture	Blood hemoglobin	Regression	58.495	1	58.495	374.133	0.000	Sig
		Errors	7.505	48	0.156			

* Significance level (0.05) n = 50 (F) values are significant if the (Sig) value is \leq (0.05)

Table .5 shows the values of the Fixed limit and slope (effect) estimates.

Biochemical indicator	Variables	β	Standard error	T value calculated	Level Sig	Type Sig
Resting metabolic rate (RMR)	Fixed limit	979.74	97.556	10.043	0.000	Sig
	Sports nutrition culture	7.889	0.731	10.785	0.000	Sig
Time to the appearance of the anaerobic threshold (anaerobic threshold)	Fixed limit	-278.603	18.339	15.192	0.000	Sig
	Sports nutrition culture	3.296	0.138	23.967	0.000	Sig
Blood hemoglobin	Fixed limit	-22.85	1.761	12.974	0.000	Sig
	Sports nutrition culture	0.255	0.013	19.343	0.000	Sig

Significance level (0.05) n = 50 Significant (t) value if the (Sig) score \leq (0.05)

Discussion:

From reviewing the results of the linear regression of nutritional culture with each physiological indicator according to the three energy systems, each energy system has four physiological indicators, as it is noted that sports nutritional culture is related to, contributes to, and affects both (and metabolism) at rest, and the time of the appearance of the anaerobic differential threshold, and blood hemoglobin. The researchers attribute the emergence of these results to the contribution and impact of nutritional culture by increasing the resting metabolic rate (RMR). This indicator is one of the most indicative of good nutrition that comes from the culture of runners and the role it plays in enabling them to improve metabolic processes by eating Familiar nutrition s that avoid risks and digestive problems, which in turn help to store the necessary energy materials necessary for the body's biological functions at rest, which are not supposed to pose a danger to the body's tissues when consumed, especially what harms essential fats. The results of the contribution indicate the positive impact of sports nutritional culture in this matter. The indicator, as for the rest of the contribution, is attributed to other random factors that have not been researched. (Abdel - Fattah, Abu El -Ela Ahmed) pointed out "there is no doubt that not knowing the appropriate type of

nutrition for the player may lead to adverse results and may even cause some diseases, which will not achieve the athletic level that the player hopes for." (1) (Saif et al). Also pointed out "it is necessary for athletes to eat protein in three meals to complete their growth process, because nitrogen is one of the components of protein that works to build tissues consumed and restore them during exercise." (18). (Al -Omar) also said, "Exercise may support metabolism and help burn fat more effectively, meaning that by exercising, you burn calories faster. Studies have shown that the speed of metabolism remains high for at least fifteen hours after exercising." "Sports". (5) (Shafiq et al). Confirmed "the resting metabolic rate (RMR) is affected by the type of sport, the intensity of sports training, and the daily training time." (19) (Ira Wolinsky & Judy) also pointed out, "The mineral elements inside the cell work to regulate its internal environment during rest and motor activity, and these results in the cell's water being saved or lost depending on the availability of the required quantities of it, and then affecting the processes of cellular metabolism." (12) Likewise, (Hussein et al.) stated, "The importance of knowing cellular metabolism (RMR) comes from the fact that the peak biological activity of a living cell depends on its efficiency in energy

release processes, which gives an indication of the athlete's condition." (11). As for the contribution and impact of nutritional culture in increasing the time for the appearance of the anaerobic threshold, which represents the turning point in energy systems, or delaying it, and the more it is delayed, it is an indication of the athlete's ability to exert effort by enduring lactic acid. The researchers attribute the emergence of these results to the runners' nutritional culture and its role in Enabling them to improve biological control processes and the abundance of minerals in the sarcoplasm of muscle cells, and for runners to avoid nutritional disorders that negatively affect chemical processes. The results of the contribution indicate the impact of sports nutritional culture on this indicator, while the rest of the contribution is attributed to other random factors that have not been researched. As he (Al -Muhadi, et al.) pointed out that "studies have proven the existence of nutrition s that strengthen memory, the best of which is a balanced diet that includes the four nutrition groups: A - the milk group and its derivatives, B - the vegetables and fruits group, C - the meat group and its substitutes, D - the bread and grains group, and we note the necessity of their balance." So that we consume a greater percentage of the group of grains, then the two groups of vegetables and fruits, then the two groups of milk and meat, and there is a group that has no nutritional importance and was not among those groups, which is the group of fats and sugars, because the body can take them from different nutrition s, so they are not important." (4).

(Glossy) also emphasized, "A person needs nutrition, but the athlete and everyone who practices sports activities, whether violent or simple, is more in need of nutrition than others. It has been proven that the development of physical fitness and its components is fundamentally linked to the quality of nutrition that the athlete eats, and this has a positive impact on the individual's athletic level. (9)

As for the contribution and impact of nutritional culture in increasing blood hemoglobin within healthy limits, the researchers attribute the emergence of these results to the fact that this indicator depends on the availability of iron from the nutrition consumed. Aerobic training factors

also contribute to increasing hemoglobin, which in general depends on the nutrition that supports it by providing iron, the important component in this compound. Protein depends on the transport of oxygen to all parts of the body. Hemoglobin deficiency is linked to many health problems for players, which lead them to a lack of physical efficiency later. The results of the contribution indicate the positive impact of sports nutritional culture on this indicator. As for the rest of the contribution, it is attributed to other random factors that have not been researched.

As (Magne) pointed out, "due to the increased demand for oxygen, which is the main catalyst for the secretion of the hormone (Erythropoietin) into the blood from the kidneys and liver, and its level in the blood increases within (24-48) hours, which in turn stimulates the bone marrow to produce red blood cells, which leads to To increase blood volume and increase hemoglobin concentration in order to improve oxygen access to tissues and increase the ability to bind oxygen to red blood cells. (13)

(Touqan) also confirmed, "Providing (O₂) and nutrients to the muscles is the final common denominator for cardiovascular function during exercise, and this depends on the fitness of the cardiovascular system, and the fitness of the cardiovascular system means the body's ability to obtain (O₂) necessary for the muscles to oxidize Carbohydrates and fats to produce energy, and the higher the fitness level of the device, the greater the sufficiency of obtaining (O₂), which reduces the burden on the heart, its beats decrease, and the pulse speed decreases, and thus the athlete can exercise vigorously." (22)

(Abdel Fattah et al). indicated, "The adequacy of oxygen delivery to tissues by red blood cells, their number, and hemoglobin (Hb) concentration are among the physiological functions that affect the adequacy of the maximum oxygen consumption." (1)

Thus, (Haddad) pointed out that "the goal of education and health awareness would raise the health level of individuals in general, which leads to increased production and savings in medical spending, as a close relationship appears between eating good nutrition and sports activity to enjoy health, and guiding individuals to the ways in which "With it they can evaluate their health

condition.” (10). As it is mentioned in the similar study (24)

Conclusions:

- The sports nutritional culture scale is a valid measurement tool for measuring the sports nutritional culture of young runners running distances (400, 800) and (400) meters hurdles.
- Young runners of distances (400, 800) and (400) meters hurdles need to increase their sports nutrition culture.
- Youth runners of distances running (400, 800) and (400) meters hurdles need a better level, and that the culture of prevention and nutritional health awareness is better than other areas of nutritional culture, and they need a culture of nutritional and weight problems more than others do.
- Sports nutritional culture is related to, contributes to, and has a positive effect on the basal metabolic rate, the time of emergence of the anaerobic threshold, and blood hemoglobin, among young runners running distances (400, 800) and (400) meters hurdles.

Recommendations:

- It is necessary to pay attention to spreading the culture of sports nutrition among young runners of distances (400, 800) and (400) meters hurdles, because of its positive impact on all biochemical indicators (basal metabolic rate, time to the appearance of the anaerobic threshold difference, and blood hemoglobin).
- It is important to adopt the results of academic studies to reduce the causes of nutritional problems aimed at losing weight and avoid unscientific restrictions that harm their health.

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Appendix (1)

Shows the Sports Nutrition Culture Scale

No.	First: the field of culture of behavior and eating habits	It applies to me to a very large extent degree	It applies to me to a very extent degree	It applies to me to a moderate degree	It applies to me to a small degree	It doesn't apply to me at all
1	I organize myself a daily feeding schedule.					
2	I follow a diet of three meals a day.					
3	I adhere to my daily feeding schedule.					
4	I eat three hours before training.					
5	I chew my food well before swallowing.					
6	I sleep late after eating.					
7	I eat breakfast in the morning regularly.					
8	I prefer eating slowly rather than binging.					
9	I adopt a varied diet.					
No.	Second: The field of culture of nutritional requirements for physical activity and sports	It applies to me to a very large extent degree	It applies to me to a very extent degree	It applies to me to a moderate degree	It applies to me to a small degree	It doesn't apply to me at all
1	I know how much food I need daily.					
2	I know the type of food I need daily.					
3	I drink energy drinks daily.					
4	I replace lost fluids with exercise.					
5	I eat more natural proteins.					
6	I eat more carbohydrates from plant sources.					
7	I eat a diet rich in natural minerals.					
8	I take non-prohibited nutritional supplements.					
9	I take vitamins from natural sources.					
10	I compensate for my energy expenditure with food after exercise.					
No.	Third: The field of culture of nutritional and weight problems	It applies to me to a very large	It applies to me to a very extent	It applies to me to a moderate degree	It applies to me to a small degree	It doesn't apply to me at all

		extent degree	degree			
1	Read the list of contents of canned food products before eating them.					
2	I am interested in knowing the calories for each food item.					
3	I control the balance of energy expenditure and intake.					
4	I adhere to controlling my weight according to sports weight specifications.					
5	I monitor my weight constantly.					
6	I constantly monitor my waist measurement.					
7	I compensate for my weight loss by eating proteins.					
No.	Fourth: The field of culture of controlling food appetite	It applies to me to a very large extent degree	It applies to me to a very extent degree	It applies to me to a moderate degree	It applies to me to a small degree	It doesn't apply to me at all
1	I drink sufficient amounts of fluids.					
2	I eat plant proteins daily.					
3	I eat animal proteins daily.					
4	I eat unsaturated fats daily.					
5	I eat enough carbohydrates daily.					
6	I tend toward non-salty food.					
7	Cold drinks are better than hot.					
8	Stay away from eating packaged sugars.					
9	I force myself to eat a diet rich in iron.					
No.	Fifth: Culture of prevention and nutritional health awareness:	It applies to me to a very large extent degree	It applies to me to a very extent degree	It applies to me to a moderate degree	It applies to me to a small degree	It doesn't apply to me at all
1	I follow health guidelines for preserving my meals when exercising.					
2	I want to eat my food without taking a long time to cook it.					
3	Fresh food is better than canned.					
4	I take care of the cleanliness of my eating place.					
5	I adhere to the guidelines of healthy nutrition.					
6	I follow a healthy diet when I gain weight.					
7	I prefer non-fast food.					
8	I adhere to the specifications of processed foods.					
No.	Sixth: The field of nutritional guidance culture	It applies to me to a very large extent degree	It applies to me to a very extent degree	It applies to me to a moderate degree	It applies to me to a small degree	It doesn't apply to me at all
1	I follow healthy nutrition programs constantly.					
2	I am interested in the coach's nutritional advice.					
3	I adhere to medical food information from					

	official channels.					
4	Stay away from ill-considered popular guidelines about food.					
5	I pay attention to eating food from known sources.					
6	I adhere to food calorie tables from scientific sources approved by the Federation.					
7	Make sure the expiry date of the food.					
8	Stay away from drinking alcohol.					

Appendix (2)

shows the (Fitmate Pro) and (HumaMeter Hb^{Plus}) devices for measuring biochemical indicators.



واقع الثقافة الغذائية الرياضية ومساهمتها ببعض المؤشرات البيوكيميائية لدى عدائي مسافات ركض (400 و800) و(400) متر حواجز الشباب

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هدف البحث إلى التعرف على مستوى الثقافة الغذائية الرياضية لدى عدائي مسافات ركض (400 و800) و(400) متر حواجز الشباب، والتعرف على العلاقة وإسهام وأثر الثقافة الغذائية الرياضية ببعض المؤشرات البيوكيميائية لدى عدائي مسافات ركض (400 و800) و(400) متر حواجز الشباب، أعتمد المنهج الوصفي بأسلوب العلاقات الارتباطية، وتمثلت حدود مجتمع البحث بالعدائين الشباب لفعاليات ركض (400 و800) و(400) متر حواجز، يمثلون لاعبي الأندية العراقية البالغ عددها (19) نادياً، البالغ عددهم الكلي (114) عداء مشارك فعلياً في تصفيات الموسم الرياضي (2023) التي أقامها الاتحاد العراقي المركزي بألعاب القوى، أختير منهم (50) راكض عشوائياً ليمثلوا العينة الرئيسة بنسبة (43.86 %)، و(30) منهم راكض للأسس والمعاملات العلمية بنسبة (26.316 %) من مجتمعهم الأصل، و(10) منهم راكضين للعينة الإستطلاعية بنسبة (8.772 %) من مجتمعهم الأصل، وتم إجراء الدراسة المسحية بتطبيق مقياس الثقافة الغذائية الرياضية، وقياس معدل الأيض **RMR** وهيموكلوبين الدم، وزمن ظهور العتبة الفارقة اللاهوائية، من ثمّ جمعت بيانات كل راكض من هذه العينة لكل من المقياس واختبارات المؤشرات البيوكيميائية الثلاثة ومعالجة بنظام **SPSS** لتكون الاستنتاجات بأنه يحتاج عدائي مسافات ركض (400 و800) و(400) متر حواجز الشباب إلى زيادة الثقافة الغذائية الرياضية لديهم، ويحتاجون إلى مستوى أفضل وأن ثقافة الوقاية والوعي الصحي الغذائي أفضل من باقي مجالات الثقافة الغذائية وهم بحاجة إلى ثقافة المشكلات الغذائية والوزن أكثر من غيرها، وترتبط وتسهم وتؤثر إيجاباً الثقافة الغذائية الرياضية بمعدل الأيض الأساسي، وزمن ظهور العتبة الفارقة اللاهوائية، وهيموكلوبين الدم، لدى عدائي مسافات ركض (400 و800) و(400) متر حواجز الشباب، وهذا ما يحقق احد اهداف التنمية المستدامة للأمم المتحدة في العراق (الصحة الجيدة). وكانت أهم التوصيات بأنه من الضروري الإهتمام بنشر الثقافة الغذائية الرياضية بين عدائي مسافات ركض (400 و800) و(400) متر حواجز الشباب لما لها من تأثير إيجابي في كل المؤشرات البيوكيميائية (معدل الأيض الأساسي، وزمن ظهور العتبة الفارقة اللاهوائية، وهيموكلوبين الدم).

مستخلص البحث

الكلمات المفتاحية: الثقافة الغذائية الرياضية، المؤشرات البيوكيميائية، ركض (400 و800) و(400) متر حواجز.