The effect of Tabata exercises with a light stimulation on visual tracking, some physical and biological variables and the speed of skill performance of Taekwondo players.

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Abstract :

This research aims to recognize the impact of Tabata exercises with light stimulation on visual tracking, some physical and biological variables, and the speed of skill performance of taekwondo players, and the researcher used the experimental curriculum for one group, on a sample based (10) Taekwondo Players with City Youth Center in Matay - Minya governorate. One of the most important results was the positive impact of tabata exercises with light stimulation on visual tracking and some of the physical and biological variables of taekwondo players; the training of Tabata exercise with light stimulation has increased speed of skill performance and improving physical and biological variables for taekwondo players, Using Tabata exercises with a light stimulation in the development of physical, skill and biological variables in different sporting activities during different season periods, The inclusion of photoactive Tabata trainings in the content of taekwondo players' training programs because of their effective impact and suitability for the Sunni phase.

Key Words*:* Tabata Training , light stimulation , visual traking, Taekwondo

Introduction and research problem:

the world's practical progress in all fields is a natural consequence of the use and application of modern science and theories that enriched the world with achievements s advancement at all levels, particularly at the sporting level, We need to use modern techniques that have emerged to take advantage of their results in the sports field in general and in the sports training field in particular. equipment and modern technological means can be used within physical and physiological measurement laboratories, stadiums and lounges to develop players' abilities and upgrade their performance levels.

The concept of modern tools and means used during the training process has evolved and expanded to include many tools, means and devices that possess enormous potential, and their availability has become one of the reasons for success in raising the athletic level, as the use of such tools and devices is one of the reasons for the high level of performance of players, among the most important ones that have emerged recently light stimulation (Blaze Pod) is one of the tools and means by which a coach can develop effective training programs to prepare players

Walker Isabel (2001) points out that sports coaches, players and sports scientists are constantly and

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continuously searching for modern training methods with the aim of improving athletic performance and gaining a competitive advantage (Walker, I 2001:203).

Cali A Dunham (2010) states that athletic training provokes many physiological adaptations that may improve many variables such as technical performance, metabolism and cardiovascular and respiratory functions, as physiological adaptation delays the onset of fatigue allowing better athletic performance of players (Cali A 2010:1).

Roger (2015) states that it designed the Tabata training method to provide the body with an effective exercise with maximum benefits in a short period of time and uses high intensity intermittent training to provide full exercise, build strength and improve heart condition developed and tested by physiologist Izometry Tabata in Tokyo and Tabata allows for practical and reliable results even under the narrow time constraints of the modern lifestyle, In four minutes per exercise, tabata exercises can be easily completed at any time, Tabata training also allows fat disposal while maintaining current fitness levels and building more muscle (Roger, H 2015:17).

Dominic Dobson, et.al. (2021) , Izumi Tabata , (م2019) Yakup Afyon et al ,(م2018) .Yakup Afyon et al . ,(م2018)Ricardo Borges Viana et al . , (م2018)Annika Ekstrom et al. (2017) Tabata training is one of the highly intense predatory training methods used to develop the aerobic and anaerobic capability of athletes.

Foster.C.et.al (2015) ,Mcrae.G.et.al (2012), agrees that the Tabata drills were created by Japanese Professor Izumi Tabata in 1996 in a study on the Olympics, Tabata workouts perform intensively, quickly and frequently in a short time with short breaks between workouts Tabata trainings are more effective than traditional trainings as they save time greatly while getting the best results.

Brandon Chapoton (2015), Miller, L. et.al (2015) Tabata-style training intensity reaches 170% of VO2 Max and size reaches eight groups, where training performs for a duration (20) w high intensity followed by (10) w positive rest, for up to (4) Minutes per set with accurate rest between groups and a total time of 20:30 minutes within the training module.

Laura et al Miller (2015), et al McRae G. (2012) Tabata training performance is 8 - 20 minutes (20s maximum effort performance, 10s comfort, repeat 8 times within 4 minutes with rest minute between groups) Using Tabata's 6-week training, aerobic fitness has evolved to the same degree when compared to 30-minute endurance training.

Olson, Michele (2014) points out the importance of Tabata drills that led to a 30-minute doubling of the metabolic rate after performance in addition to improving volumes, pulmonary capacities and oxygen consumption rate which improves aerobic capacity, In addition, Tabata training has been distinguished in improving anaerobic ability by up to 28% of performance and improving

blood glucose level and thus the distinction of this method is to combine improvement of aerobic and anaerobic capabilities at the same time.
Miler L. et.al (2015) noted that recent studies of physiological responses to various protocols of high-intensity periodic training have shown that Tabata training is a successful training alternative to traditional aerobic training systems although the volume of training has decreased significantly.
Taekwondo is an Olympic hostel sport characterized by fast movement and rapid transition between offensive and defensive situations. in terms of the way points are calculated and the shape and time of the pitch changed within 10s, all of which led to a change in the style of play, Search for modern methods and methods of training to increase the speed of players' attacks.

Through the scientific and field research expertise in taekwondo and the continuous follow-up to player training, he noted a weakness in the players' ability to continue performing offensive and defensive duties throughout the match period with great efficiency. and the emergence of signs of fatigue for players during training and inability to perform quickly due to lack of oxygen and accumulation of lactic acid with blood and muscle, which affects the speed of kicking performance for taekwondo players, Also the inability of players to track the movement of the competitor and therefore the inability to determine the skill that is in line with the playing conditions And looking for a training method by implementing it on the players that enables them to continue to perform efficiently during the match for a long time, And also by informing the researcher about recent scientific studies and references whether Arabic or foreign associated with the training of Tabata such as the study of Dominic Dobson, et.al. (2021) , Tabata (2019), Viana, R et al. (2019) , Yakup Afyon et al (م2018),Viana, R et al. (2018) , Brian Williams and Robert Kraemer (2015 , Laura Miller et al. (2015), Carl Foster et al. (2015) , Zurek, Comi, Cicchella, Roi GS" (2015) , Talisa Emberts et al. (2013), Michael Rebold et al. (2013) , Michele Olson (2013) , Howard Fortner et al. (2014) Within the limits of the researcher's science, no scientific study was found on the impact of photoactive Tabata trainings on visual tracking, some physical and biological variables, and the speed of skill performance of taekwondo players.

Research Objectives:

This research aims to recognize the impact of tabata exercises with photostimulation on visual tracking, some physical (Muscular Ability For legs, Reaction speed for legs) and biological variables (VO2Max, Vital Capacity, Pulse rate in Rest, Pulse rate after effort, Lactic Acid Rate in Rest, Lactic acid rate after effort) and the speed of skill performance of taekwondo players.

Search Assumptions:

1- There are discrepancies of Statistical Significance between the two Average of pre-and post-measurement sample research on visual tracking and some of the physical and biological variables of

taekwondo players and the rate of improvement in favor of post measurement.

2- There are discrepancies of Statistical Significance between the two Average of pre-and post-measurement sample research on the speed of skilled performance of taekwondo players and the rate of improvement in favor of post measurement.

Search Terms:

Tabata Training: Limited Time and Fixed Time Exercises for Working Periods and Rest Using a Good Maximum and More Times (Irem D. 2010:14).

light stimulation: a fast and cognitive training system designed to change the way we exercise, train and measure performance. light stimulation helps to increase the speed of athletes as well as strengthen and connect their minds and bodies, enhance reaction and response time, and movement patterns, it is a wireless lighting system consisting of RGB LED series that operates lights. The lights are used as targets and can be adapted for all sports and training programs (37).

visual traking: Visual tracking is typically defined as the ability to efficiently move the eyes from left to right (or right to left, up and down, and circular motions) OR focusing on an object as it moves across a person's visual field (38).

Research Plan and Procedures:

Research curriculum:

According to the nature of the research and in order to achieve its objectives and test its mandates, the researcher used the experimental methodology using the experimental design of one set in a method of pre-and remote measurement.

Research Community:

The research community represents taekwondo players in Minya governorate for the 2021/2022 training season.

Sample Search:

The researcher selected the sample of the research in a deliberate manner from taekwondo players at the City Youth Center in Mtay - Minya governorate for the Sunni phase (18:21), Their average weight was (67.60 kg) . The number of the sample was (10) players, and (10) players were selected from the research community and outside the basic sample appointed by the reconnaissance study to calculate the scientific transactions of the tests under consideration.

Moderate distribution of research sample personnel:

The researcher ascertained how moderate the distribution of the research sample individuals was in the light of the following variables: rates of growth "age, height, weight", visual tracking, biological indicators, speed of skill performance under consideration and table (1) showing this.

Table(1)
Computational average, intermediate, standard deviation and twist coefficient for growth rates and visual tracking, physical and biological variables and Speed of Skill Performance for taekwondo players (n = 10)

variables		Units	Sample Search (n = 10)			
			Mean Arithmetic	Median	STD deviation	Skwedness
growth rates	Age	year	19.10	18.5	0.74	2.44
	Length	cm	170.20	171	2.86	0.84-
	Weight	kg	67.60	67.5	2.55	0.12
visual tracking		numbers	1.68	1.64	0.22	0.57
physical	Muscular Ability For legs	cm	210.00	212.5	4.71	1.59-
	Reaction speed for legs	sec	3.77	3.70	0.53	0.40
biological	VO2Max	ml/kg/min	48.60	48	0.97	1.86
	Vital Capacity	litre	3.17	3.19	0.06	0.99-
	Pulse rate in Rest	pulse /min	74.90	74.5	0.57	2.11
	Pulse rate after effort	pulse /min	182.90	183	1.97	0.15-
	Lactic Acid Rate in Rest	M mol/L	1.97	1.97	0.01	0.00
	Lactic acid rate after effort	M mol/L	11.96	11.94	0.30	0.28
Speed of Skill Performance	DOLLYO-CHAGI	numbers	3.60	3.50	0.48	1.24
	AP-DOLLYO-CHAGI	numbers	3.20	3.00	0.42	1.42

Table (1) shows that the values of the research sample's twist coefficient in both growth and visual tracking rates and some physical and biological variables and the speed of skill performance under consideration were limited to (+ 3, -3) indicating the moderate distribution of the sample in those variables.

Means of data collection:

First: Foreign references: The researcher consulted the scientific references associated with the field of research such as the study Dominic Dobson, et. al. (2021), Tabata (2019),Viana, R et al. (2019), Yakup Afyon et al (2018), Brian and Robert Kraemer Williams (2015), Miller Laura et al., (2015) , Foster Carl et al. (2015) to use when doing this research.

Second: Scientific organs and tools:

- Restameter Pe 3000 for Height and Weight Measurement- Sterile Serranges for Blood Sample Withdrawal, Disinfectant, and Cotton - Glass Tubes for Blood Sample Preservation with EDTA for Blood Clot Prevention - Coleman Contains Crushed Ice for Blood Sample Preservation - Acesport (Accusport) and its accessories to measure the blood lactate concentration - Lactate Strips blood lactate concentration detectors - pen and finger doubts - hours off - tape measurement - whistle - tape adhesive - cones - balls - device (Blaze Pod).
- Sport Tester PE 3000 Devices for Pulse Measurement, spirometer Devices to measure vital capacity

The researcher calibrated the results of these devices by comparing their results with those of other devices of the same type. In the same circumstances, the comparison gave the same result, indicating the veracity and consistency of the devices' results and their usability.

Third: Tests under consideration:

1. Optical tracking attachment Appendix (2)
2. Physical variables attachment Appendix (3):

- Muscular ability (broad jump of stability - reaction speed for both men).

3. Biological variables attachment Appendix (4):

- Maximum oxygen consumption VO2 Max - Vital capacity - Pulse rate in rest - Pulse rate after effort - Lactic rate in rest - Lactic rate after effort

4. Skill tests under consideration Appendix (5):

- Speed skill performance (Dollyo-Chagi- Ap-Dollyo-Chagi).

IV: Scientific transactions of visual tracking tests, physical and biological variables and Speed of Skill Performance under consideration :

Honesty:

The veracity of the tests under consideration was calculated by certifying the peripheral comparison on the reconnaissance search sample and its number (10) players from the same research community and outside the original sample, the grades were arranged upward to determine the higher quarters to represent the high-level group in those tests and the five (5) players, the lower quarters to represent the low-level group in those tests and the five (5) players, and the difference between the two groups was calculated in the tests under consideration as shown in table.(2)

Table(2)
Indication of differences between the averages of the upper and lower quarters in the tests under consideration n = 10

variables		Units	Top quarters		Minimum quarters		(T) Value	Statistical Significance
			Mean	SD	Mean	SD		
visual tracking		**numbers**	**1.86**	**0.13**	**1.57**	**0.08**	**3.63**	**Sig**
physical	Muscular Ability For legs	cm	211.00	2.24	205.00	5.00	2.19	Sig
	Reaction speed for legs	sec	4.12	0.44	3.22	0.11	3.91	Sig
biological	VO2Max	ml/kg/min	48.80	0.84	46.40	0.89	3.93	Sig
	Vital Capacity	litre	3.20	0.06	3.11	0.02	3.33	Sig
	Pulse rate in Rest	pulse /min	75.20	0.45	74.20	0.45	3.13	Sig
	Pulse rate after effort	pulse /min	183.60	0.55	180.40	0.89	3.63	Sig
	Lactic Acid Rate in Rest	M mol/L	1.99	0.01	1.97	0.01	2.00	Sig
	Lactic acid rate after effort	M mol/L	12.14	0.37	11.73	0.04	2.16	Sig
Speed of Skill Performance	DOLLYO-CHAGI	numbers	4.00	0.00	3.10	0.22	2.64	Sig
	AP-DOLLYO-CHAGI	numbers	3.40	0.22	3.07	0.15	2.54	Sig

Value of (T) tabulation at an indicative level (0.05) = 1.76

Table (2) shows statistically significant differences between the higher quarters group representing high-level players in the variables under consideration, and the lower quarters group representing low-level players in the tests under consideration and for the higher quarters group indicating the sincerity of these tests and their ability to distinguish between groups.

Stability:

The researcher applied and reapplied physical and biological variable tests on 12/7/2021 18/7/2021, optical tracking tests & skill performance speed test on 13/7/2021 and reapplied 19/7/2021, with a

interval of 7 days on a reconnaissance sample based on (10) Players from the research community and from outside the basic research sample under the same conditions and conditions and find correlation transactions between the first application results and the second application to find the stability of these tests, as shown in table(3)

Table (3)
Correlation coefficient between the first and second applications of the physical and skill tests under consideration n = 10

variables		Units	First Application		Second application		(R) Value	Statistical Significance
			Mean	SD	Mean	SD		
visual tracking		numbers	1.71	0.19	1.75	0.18	0.78	Sig
physical	Muscular Ability For legs	cm	208.00	4.83	209.50	4.97	0.88	Sig
	Reaction speed for legs	sec	3.67	0.56	3.57	0.60	0.97	Sig
biological	VO2Max	ml/kg/min	47.60	1.51	47.20	1.62	0.81	Sig
	Vital Capacity	litre	3.16	0.06	3.17	0.08	0.70	Sig
	Pulse rate in Rest	pulse /min	74.70	0.67	74.50	0.53	0.78	Sig
	Pulse rate after effort	pulse /min	182.00	1.83	181.60	1.78	0.75	Sig
	Lactic Acid Rate in Rest	M mol/L	1.98	0.01	1.98	0.01	0.98	Sig
	Lactic acid rate after effort	M mol/L	11.94	0.33	11.89	0.26	0.99	Sig
Speed of Skill Performance	Dollyo-chagi	numbers	3.55	0.50	3.65	0.53	0.92	Sig
	Ap-dollyo-chagi	numbers	3.23	0.25	3.38	0.39	0.81	Sig

Value (R) tabular at a degree of freedom (8) and an indicative level (0.05) = 0.632

Table (3) shows that the correlation factors between the first and second applications of the variables under consideration were limited to (0.70: 0.98) which are statistically significant correlation factors indicating the stability of these tests**.**

V. Training program: Appendix (6)

- Defining the program's objective:

Design a training program Using Tabata exercises with alight stimulation on visual tracking, some

physical and biological variables and Speed of Skill Performance for taekwondo players.

Software development bases using light stimulant Tabata training:

- Care about warming to avoid injuries.
- Flexibility of software and acceptance of adjustment during practical application.
- It is not recommended to perform exercise on a daily basis, exercise day and take rest the next day.
-Take into account the correct relationship between load variables (intensity - intensity - size).
-Take into account the steep graduation of loads and the rotation between height and decrease in line with the principle of highly graded training loads.
-Defining the objectives and duties of the training modules.
-Take into account safety and security factors during training.
-Calm down and return to normal condition at the end of each training module.

Determining the time distribution of the training program:

The training program took 8 weeks.

Identification of the number of training modules for the training program:

The number of training units per week (3) was 80-110 minutes and the total number of training units was 24.

Identification of training load forming system:

The corrugation method used to form the training load during the preparation period using the forming (2:1) during the pregnancy cycle so that the performance of two training units with a high load followed by a training module with a medium load. The Tabata trainings perform intensively, quickly and repeatedly in a short time with time breaks to rest between these groups.

-The time of exercise performance is not exceeded (20) w and performance is performed at high speed - the number of repetitions (8) repeat - rest between repeats (10) w - group time (4) s - the number of groups (8) groups and rest (1) s between groups.
-Tabata-style training time within the unit (30:35).
-Load intensity used (high intensity): The intensity was rationed according to the rate of oxygen consumption 170%. The maximum oxygen consumption rate was measured through a 12-minute running test.
-Determine the intensity of workouts from (70 - 90%) of the maximum frequency of each workout.

Distribution of pregnancy grades for training weeks:

The pregnancy grades were distributed to the training weeks during the training program stages. The average pregnancy grades were between (50%-74%) and higher pregnancy between (75%-89%) and maximum pregnancy between (90-100%) from the limits of the player's ability**.**

Table(4)
Program time breakdown in percentage and minutes not included warm-up and seal

S	Aspects of preparation	Time (MIN)	IMP.PERCENT
1	Physical (Hilt)	657	30%
2	Skills	876	40%
3	Plans	657	30%
total		2190	100%

Sixth: Survey:

This study took place from 12/7/2021 until 20/7/2021, In order to discover the difficulties that the researcher may encounter during the application and work to resolve them before starting the basic experiment, As well as ascertaining the aspects of the implementation and application of the training in terms of the appropriate training time and the number of repeats per training where the first three modules were experimented on the sample exploratory research, **the results of the study indicated**:

1 .The researcher ensured that the research sample individuals understood how to perform different exercises.

2. The validity of devices, tools and the place used to carry out such exercises.

3. Understanding and assimilating assisted hands to their duties and functions.

4. Finding scientific transactions for the tests under consideration (honesty - consistency).

5. Make sure the program is suitable for search sample individuals.

6. Timing of the training module used in the training program.

7. Identification and processing of blood samples withdrawal places**.**

Steps to implement the research:

Pre- measurements: The researcher performed the pre- measurement of the research sample of physical and biological variables on 21/7/2021. The measurement was done for optical tracking test and skilled performance speed on 22/7/2021. The researcher took into account the application of the tests to all individuals in a uniform manner.

Implementation of the training program: The proposed training program was implemented for 8 weeks from 24/7/2021 and ended on 15/9/2021. Three training modules from each week were implemented on days (Saturday, Monday, Wednesday) by 24 units on the research sample that apply the training program supplement (6).

Post measurements: The researcher performed the post measurement of the structural and biological variables on 18/9/2021, measuring visual tracking and the speed of skill performance on 19/9/2021 and the same method followed in pre- measurement and under the same conditions and conditions.

Statistical processors used in research: The researcher prepared, tabulated and statistically analyzed the data with the

extraction and interpretation of the results, and used calculated average statistical methods, intermediate, standard deviation, twist coefficient, binding coefficient, test "v", improvement ratio (change), at an indicative level (0.05

Presentation and discussion of results:

Table (5)

Indication of differences between the median pre-and post-sample measurements in visual tracking and the physical and biological variables Under consideration (n = 10)

variables		Units	Pre		post		(T) Value	IMP.Precent
			Mean	SD	Mean	SD		
visual tracking		numbers	1.68	0.22	2.84	0.17	12.84	69%
physical	Muscular Ability For legs	cm	210.00	4.71	227.10	2.23	9.94	8%
	Reaction speed for legs	sec	3.77	0.53	2.56	0.18	7.54	32%
biological	VO2Max	ml/kg/min	48.60	0.97	55.40	1.71	13.33	14%
	Vital Capacity	litre	3.17	0.06	4.30	0.06	56.45	36%
	Pulse rate in Rest	pulse /min	74.90	0.57	70.20	0.42	31.33	6%
	Pulse rate after effort	pulse /min	182.90	1.97	172.80	2.15	10.98	6%
	Lactic Acid Rate in Rest	M mol/L	1.97	0.01	1.26	0.02	7.08	36%
	Lactic acid rate after effort	M mol/L	11.96	0.30	10.26	0.04	17.05	14%

Value of (T) scheduling at degree of freedom (9) and level of indication (0,05) = 1.833

The results of table (5) show that there are statistically significant differences between the average pre- and post measurements of the optical tracking sample and some of the physical and biological variables under consideration, as the calculated "T" value is greater than the "T" value of the table at an indicative level.(0.05)

The researcher attributes these statistically significant differences between the results of the research sample's pre-and postmetric measurements in favour of post measurement in visual tracking and some of the physical and biological variables under consideration as a result of the photoactive Tabata training program. Which allows players to continue to perform at the highest level without feeling tired, It also helps with the speed of hospitalization during high intensity performance, The use of the Tabata training program with scientifically planned and rationed lightstimulant has had a positive impact on improving visual tracking, muscle capacity and players' reaction speed by tracking and predicting lightstimulants, as well as some biological variables of taekwondo players.

This is consistent with Chapoton Brandon (2015) that the Tabata-style training method has improved volumes, pulmonary capacities, aerobic capacity and pulse rate and reduced lactic acid accumulation during rest and after effort.

This is also consistent with the results of the study of both Viana, R, et.al. (2018) , . Foster, C et. Al. (2015) , et. Al. McRae, G (2012) noted that the use of Tabata training contributed to the development of the physiological variables under consideration.

Rebold, Michael J. (2013), Sompena, A. " (2017) Tabata trainings improve the functions of vital devices by developing the work of the circular and respiratory system and delaying the appearance of fatigue.

Michelle Olson et al. (2014) The training of Tabata is commensurate with the criteria for improving the aerobic capability as it works to consume the greatest amount of oxygen in its practice, namely aerobic abilities, in addition to producing the maximum energy produced by the body in the absence of oxygen, namely anaerobic abilities and working with these two types of abilities positively affects endurance.(36)

This result is also consistent with the results of the study of Dewi santoso et all (2019), Fergal Grace et all (2018), Todd A Astorino et all (2016), Carl Foster et al (2015), Gill McRae et al (2012) of the importance of using Tabata training in the development of physical and physiological abilities

This is also consistent with the results of Zurek, C.et.al (2015), et al Lockie, R. (2014), Millanovic et al (2013), where they are unanimous that athletic performance requires linking visual aspects to visual thrills with performance during training.

Kenneth states, between Kenneth and Bin (2014) that visual training is a frequent series of eye drills to improve the visual aspects of sequential eye movement, This makes the player able to see the situation as a single composite unit to give him the ability to adapt to the interactive position within the overall format of the boundaries of the pitch and the movements of the competitor through good visual tracking so as to control

the skilled performance in proportion to the different technical situations.

According to the researcher, the use of photosynthetic Tabata exercises positively improves visual tracking through optical excitement of players, maximum performance effort and the use of muscle sensory receptors and optical receptors in the eye whenever the information transmitted is easy, clear and responsive within the player's motor range, the performance is easy and the correct response.

The search for improvements in physical variables is due to the optimal use of Tabata exercises using light stimulant as well as the nature of the device used to perform the training; Being a modern method of training and physical training is characterized by its nature of fast and short movement. The nature of the exercises used in the research in terms of performance time control and rest periods because of the significant impact of these periods in restoring healing for athletes, This has a major role to play in developing the level of players. The availability of the element of surprise and changes in the components of the training load and the diversity of the training causes the excitement of new muscle fibers between periods of time that will increase the size of the muscle used in the training, resulting in the development of muscle capacity and reaction speed as well as the motor compatibility of the eyes, men and hands.

Those results are consistent with the results of the study of Dominic Dobson, et.al. (2021) , Afyon, Y et.al.(2018) , Miller Lora, et.al. (2015) , fortiner, Howard, et.al. (2014) , Michael Rebold. Et.al. (2013) where Tabata trainings have an impact on many physical abilities, which has a great impact on the progress and development of the skilled performance of sports activity.

The first imposition, which states that "there are statistically significant differences between the mediums of pre-and post-optical tracking and some of the physical and biological variables of taekwondo players and the rate of improvement in favour of post measurement", is achieved.

Table (6)

Indication of differences between the median pre-and post-sample measurements in the speed of skill performance Under consideration (n = 10)

variables		Units	Pre		post		(T) Value	IMP. Precent
			Mean	SD	Mean	SD		
Speed of Skill Performance	dollyo-chagi	number	3.70	0.48	5.56	0.32	8.88	%50
	ap-dollyo-chagi	number	3.20	0.42	5.10	0.31	9.03	%59

Value of (T) scheduling at degree of freedom (9) and level of indication (0,05) = 1.833

The results of table (6) show that there are statistically significant differences between average pre-and post measurements in the speed of the skill performance under consideration, as the calculated "T" value is greater

than the "T" value of the table at an indicative level (0.05).

The researcher returns this improvement in the speed of the skill performance under consideration as a result of the Tabata photoactive training program, The training program is planned on scientific grounds, taking into account the correct exchange between the training processes and the restoration of hospitalization, allowing the lactate to be in the form required for the operation of the lactate shuttle system by hurling lactic acid from the working muscles producing the blood tactic. And also provide more energy needed to perform as a result of it all increases the physical and skill level, As fatigue adversely affects physical performance, its rate is gradually reduced and therefore the performance of different skills is affected. In addition to containing simple and complex training to develop skill performance as well as training in unexpected and predictable thrills, the program has increased the speed of performance of the skills under consideration. The program also included light stimulant exercises for skill performance as well as fellow exercises using light stimulant significantly contributed to increasing the speed of players' skill performance and increasing competition between players each other. As a result of the improvement in physical variables, taekwondo's skilled performance has greatly improved.

This is consistent with the study of Chapoton Brandon (2015), Afyon, Y.et.al. (2018), Ryan Larsen (2012) had to use Tabata drills and photosynthetic drills that had a positive and effective impact on physical and skill aspects.

These findings are also consistent with our studies and the friend of Sompena, A., and D.Z. (2017), which indicated that the use of Tabata exercises contributed to the improvement of the skill variables under consideration.

This is consistent with the study of both Santos Jonatas et al. Al (2016) , Young Kwan et.al. (2011) , Coral F et.al. (2009) The applicable training program contributed to increasing the speed of skilled kicking performance for taekwondo players.

The improvement in the speed of skill performance is due to the high physical level, which is reflected in the skill level of taekwondo players in the affirmative, as well as the implementation of several trainings aimed at the development and refinement of skill performance and the graduation of skill training to reach the level of mastery and attention to exercises under the pressure of the competitor. The photosynthetic drills stimulate players' enthusiasm, move their senses and urge them to make the utmost effort within the training module. The diversity of workouts and their forms also adds to players the element of suspense, breaking boredom, increasing focus and attention during training which contributes to the development and improvement of physical and skill variables. The similarity of motor performance and skill training similar to the nature of skill performance has also greatly contributed to the

improvement of the skill performance speed of taekwondo players.

Through this, the second imposition, which states that "there are statistically significant differences between the average pre-and post-sample measurements in the skill speed of taekwondo players and the rate of improvement in favour of post measurement", is achieved.

conclusions :

1- Tabata trainings have had a positive impact on the visual tracking of taekwondo players by an improvement.(%69)

2- Tabata trainings have had a positive impact on some of the physical variables of taekwondo players (muscle capacity - motor response speed) at rates of improvement respectively.(%32 - %8)

3- Tabata trainings have had a positive impact on some biological variables (VO2 Max - Bio-Capacity - Pulse Rate in Rest - Pulse Rate after Effort - Lactic Acid Rate in Rest - Lactic Acid Rate after Effort) with improvement respectively %36 - %14) .(%14 - %36 %6 - %6 -

4- Tabata exercises with photosynthetic thrill affected the skill speed of taekwondo players to my skill (BC Chaggi - Aptolio Chaggi) at rates of improvement respectively - %50) .(%59

recommendations:

In light of the research results, the researcher recommends that:

1- The need to implement the training program at different levels and stages of the year, as it has a positive impact on physical and biological variables and the speed of skill performance.

2- The inclusion of photoactive Tabata trainings in the content of taekwondo players' training programs because of their effective impact and suitability for the Sunni phase.

3- Using Tabata exercises with a light stimulation s in the development of physical, skill and biological variables in different sporting activities during different season periods.

4- Organizing coaches' training courses to clarify all new coaching methods and link them to photosynthesis because of its great importance in increasing the speed of athletic performance as well as the reaction to players.

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