

Effect of Spd3 on some physical and numerical variables in butterfly swimmers

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Introduction and Research

Problem:

Sports training takes great strides towards progress and development in our age. Achieving high levels of scientific progress in countries has led to increased interest in sports in general and football especially in the competition of developed countries to increase interest in scientific research in the field of sports training, Including the development of all variables associated with the training process.

The speed training is based on the use of anaerobic training. In this method, the swimmer is required to perform a short distance or swimming for a period of time

So that the breaks between the large groups are reasonable enough to allow the swimmer to restore the recovery and prepare him to continue training and exert the effort for the following groups (13: 191).

Issam Abdel-Khaleq (2003) believes that speed is the ability to perform successive movements of one species in the shortest time period.

It,s one of the main factors of physical performance, which is associated with the sequence of muscle contraction in motor performance, which is the main component of most sports activities,

Especially which related to the time of motor performance. speed affects all other physical abilities and is linked to muscle strength and has a basis in endurance and flexibility (9: 161)

Abul-Ela Abdel-Fattah and Hazem Hussein Salem (2011) agree that the development of real speed comes through focusing on swimming more quickly than trying to focus on increasing the effort strongly and the need

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to quickly train the swimmer in training to accelerate the race , And he cares about the performance of each turn and start and end as quickly as if he was in a race until he gets used to it. (74: 1) (2: 55)

Jot Crop, citing Abul-Ela Abdel-Fattah and Hazem Hussein Salem (2011) agree that over the next ten years, the improvement in the digital level in swimming will reach 5-10% increase in aerobic exercise and about 20 of the exercises of anaerobic block,

Which means that there is a trend to speed training (anaerobic capacity) in training programs in the coming years, But this does not mean a reduction of aerobic capacity (2: 53)

Hiba al-Jamal (2005) emphasizes the need to develop the physical capacity of the body on a wide scale and without negligence.

Otherwise, this will have an undesirable effect on the performance of the swimmer in the future. The most important of these capabilities is muscular capacity which falls within the final goals of the swimming pool (17:40).

That the training load is usually made up of size and represented in the swim "distance traveled by the swimmer" and intensity and represented in the swimming exercises "speed required to cut the distance,"

And rest intervals between the frequency of swimming a certain distance, The direction of speed development or endurance development. (29: 7) (102: 15) (3:22) (20:24)

The speed training levels of Ernie Maglischo aims to reach the maximum speed of the race and improve the physiological function of the body and increase the strength of muscle fiber and the speed of muscle contraction,

Which increases the ability of the muscles in swimming, and increase the storage capacity of phospho creatine and triphosphate and increase the activity of enzymes to the speed of production Energy from these two sources,

And with the increase of the distance to (25 - 50) meters also increases the activity of enzymes to produce energy

from the source of glycogen.
(3:22)

The common method for group repetitions is to improve speed (from 10: 50 m and rest is 15: 30 seconds with 10 m repetitions - 30 seconds to 2 minutes with 25 m repetition - 2 to 5 minutes with frequencies of 50 m) Time with a distance of 10 meters - and from 6 to 10 times with a distance of 25 meters - and from 3 to 6 times with a distance of 50 meters.
(22)

Most speed racing in swimming depends on the power of speed and explosive power. This is clearly demonstrated when swimmers begin to race depending on the power (speed characteristic).

At the end of the race, it is superior to those with the maximum power. During the training of capacity will lead to the improvement of the digital level and develop the performance of swimmers.
(25:12)

Capacity training represents the third level of speed (speed 3) to improve the maximum strength and speed of the race through the maximum effort in training over 10 to 25 meters The ratio of work to rest 8: 1

Do not exceed the group time of minutes to two minutes, 105% of the best time he has, with the best technical performance and the best rate of blows with the speed of short distances. (137: 11)
(15:23)

The power training is used to develop the speed in distances ranging from 25 to 50 meters, in the first dive, in the rotation and at the end of the race in the last 5 meters.

All races in swimming take more than 12 seconds and many races take longer than (For example, in the 400 meter race, the phosphate system is used in the first 15 meters after starting and in rotation.

The air system is then used up to 250 meters from the race. The lactic accumulation begins at a speed of 150 meters after the race. (15: 2) (178: 13), and so on in all swimming races.

And the training of speed 3 in water increases the amount of ATP-PC in the muscle fibers trainees, and increase muscle strength, and increase the rate of development of capacity within the muscles,

And increase the rate and form of excitability of muscle fibers to contractions through the nervous system, and all these adjustments to

increase the capacity of performance of different races,

The training should include adequate amounts as part of the training plan during the various training phases. It does not take much time, so it is easy to put into the weekly plan without negatively affecting other training methods.

Period Early in the season so that they can increase their ability to swim before starting to take care of the training of lactic load, and should continue to maintain the ability they gained to become the main goal of the training plan during the middle part of the season, and should be a major goal in the latter part of Season (181: 23)

The researcher, through his knowledge of many studies (4), (5), (8), (16) and following many exercises and tournaments, noted that the ability to develop speed (Spd3) is one of the best methods of improving the elements of strength and speed,

It,s one of the most influential elements of short distance races which used to give the maximum speed for the start and turn stages and the finish stage.

This makes the ability to train speed not only for short distances but also for medium and long distances and to

increase the ability of swimmers to reach maximum speeds early in the race, From the above, the researcher is interested to recognizing the impact speed drills Spd3 on some physical variables and the level of digital butterfly swimmers.

Search Goal:

The aim of the research is to identify the impact of SPD3 on some physical and numerical variables in butterfly swimmers

Research hypotheses:

1- There are statistical differences between the pre and post measurements in some physical variables and the numerical level of butterfly swimmers experimental research group.

2 -There are statistical differences between the pre and post measurements in some physical variables and the numerical level of butterfly swimmers control group.

4 -There are statistically significant differences between the mean of the two dimensional measurements in the experimental and control groups in some physical variables and the numerical level of the butterfly swimmers and for the experimental research group.

Research Methodology:

The researcher used the experimental method as a suitable method of study using the pre and post measurement of two groups, one experimental and the other an control .

Community and Sample Search:

The study sample was randomly chosen from the male swimmers who practiced butterfly swimming at the **Tanta Sports Club** and registered in the Egyptian Swimming Federation for the 2013 sports season.

The study included 30 swimmers who were randomly divided into two groups. Each group consisted of 15 swimmers, (8) for the conduct of the exploratory drills of the research.

Homogeneity and equivalence of the sample:

Homogeneity:

The researcher conducted homogeneity on the study sample of (30) swimmers (15) swimmers for the experimental group and (15) swimmers for the control group in the variables (age, height, weight) as shown in Table (1)

Table (1)

Arithmetical mean, standard deviation and torsion coefficient for measurements Age, height and weight for sample members N = 38

| Variables | measruing unit | SMA | standard deviation | Mediator | Torsion coefficient |
|-----------|----------------|--------|--------------------|----------|---------------------|
| Age | Year | 21,10 | 18,0 | 32,10 | -83,1 |
| Weight | Kgm | 46,30 | 71,1 | 35,30 | 19,0 |
| Height | Cm | 37,131 | 28,0 | 5,131 | 39,1 |

It is clear from Table (1) that the torsion coefficient is limited to (83.1 - 39.1).

This means that the variables achieve the average curve, which is limited to +1, which confirms the degree of homogeneity among the

sample as a whole in age, height. ‘

Table (2) shows the homogeneity of the sample in a swimming time of 50 m butterfly, the test of the junior to the level of performance of 50 m butterfly, self-mute time.

Table (2)
Arithmetic mean, standard deviation, and torsion coefficients for performance variables The skills are under investigation N = 38

| Variables | measruing unit | SMA | standard deviation | Mediator | Torsion coefficient |
|---|-----------------------|------------|---------------------------|-----------------|----------------------------|
| Swimming time 50 m butterfly | Second | 86,44 | 55,2 | 80,44 | 07,0 |
| Test junior for the performance level of 50 m butterfly | Degree | 19,24 | 72,1 | 24 | 33,0 |
| Time to stop breathing | Second | 04,43 | 89,1 | 15,43 | -17,0 |

It is clear from Table (2) that the torsion coefficient is limited to (17.0 - 33.0). This means that the variables achieve the average curve, which is limited to +3, which confirms the degree of homogeneity among the sample as a whole in the skill performance

Table (3)
Arithmetic mean, standard deviation, and torsion coefficient Of the physical variables in question N = 38

| Variables | measruing unit | SMA | standard deviation | Mediator | Torsion coefficient |
|---|-----------------------|------------|---------------------------|-----------------|----------------------------|
| Strength of the muscles of the legs | Kgm | 76,42 | 14,1 | 51,42 | 66,0 |
| Strength of arm muscles Number of bursts | No | 95,34 | 81,0 | 35 | -19,0 |
| Test the overall driving force of the legs | Kgm | 92,2 | 37,0 | 85,2 | 57,0 |
| Swimming speed 15 m with arms (Butcher) | Second | 36,11 | 92,1 | 5,11 | -22,0 |
| Swimming speed 15 m (legs) | Second | 13,11 | 37,0 | 11 | 05,1 |

As shown in Table (3), the torsion coefficient is limited to (22.0 - 05.1).

This means that the variables achieve the average curve, which is limited to +3, which confirms the degree of homogeneity among the sample as a whole in the performance of the rotation and digital level.

The search group parity:

The parity between the experimental and control groups was performed in the performance variables for the rotation and the numerical level of the individuals of the research sample and table (4)

Table (4)
Arithmetic mean, standard deviation, and value "t" in performance variables The skills are under investigation
N 1 = n 2 = 10

| Variables | Measuring unit | The experimental group | | Control group | | Value of "T" | Level of significance |
|---|----------------|------------------------|------|---------------|------|--------------|-----------------------|
| | | M | E | M | E | | |
| Swimming time 50 m butterfly | Second | 10,45 | 75,2 | 61,44 | 41,2 | 46,0 | Non significance |
| Test junior for the performance level of 50 m butterfly | Degree | 93,22 | 06,2 | 46,24 | 33,1 | 75,0 | Non significance |
| Time to stop breathing | Second | 73,43 | 98,1 | 67,43 | 76,1 | 08,0 | Non significance |

T value at a significant level of 0.05 = 711.1

It is clear from the previous table that the values of "T" are not valid since they were all lower than the "T" values at a significant level of 0.05.

This indicates the equivalence of the members of the research sample in the performance variables of the rotation and the digital level.

Table (5)
Arithmetical mean, standard deviation and value "v" of the
physical variables under consideration N = n = 2

| Variables | Measruing unit | The experimental group | | The Control group | | Value of "T1" | Level of significance |
|--|----------------|------------------------|------|-------------------|------|---------------|-----------------------|
| | | M | E | | | | |
| Strength of the muscles of the legs | Kgm | 66,42 | 61,0 | 38,42 | 51,0 | 22,0 | Non significance |
| Strength of arm muscles | No | 46,34 | 52,0 | 69,34 | 48,0 | 81,0 | Non significance |
| Number of bursts | | | | | | | |
| Test the overall driving force of the legs | Kgm | 77,2 | 44,0 | 85,2 | 38,0 | 48,0 | Non significance |
| Swimming speed 15 m with arms (Butcher) | Second | 42,11 | 52,0 | 35,11 | 49,0 | 34,0 | Non significance |
| Swimming speed 15 m (legs) | Second | 15,11 | 36,0 | 22,11 | 48,0 | 40,0 | Non significance |

*Tab value at a significant level of 0.05 = 711.1

It is clear from the previous table that the values of "T" are not valid since they were all lower than the "T" values at a significant level of 0.05.

This indicates the equivalence of the members of the research sample in the

performance variables of the rotation and the digital level.

Tools and means of data collection

To collect research data, the researcher used the following tools and tests:

1-Special tools for measuring growth variables:

A) Use of the resameter to measure length in centimeters.

B) Use the medical balance to measure the weight in kilograms.

2- Special tools to measure the strength of the muscles of the two legs and back:

A). Measure the strength of the muscles of the two legs with the dynamometer.

B) Measure the strength of the back muscles by the dynamometer.

3 - Special tests to measure the technical variables Annex (1)

A- stopwatch to measure the swimming time of 50 m butterfly and test self-mutilation.

B- Estimating the level of performance of the 50 m butterfly by a tripartite judging committee of the club's coaches with a score (10).

To measure stop breathing time, use the underwater swim test for as long as possible to calculate the time the swimmer will record.

Suggested exercises:

Training goal:

Effect of Spd3 on some physical and numerical variables in butterfly swimmers

Steps to prepare the exercises:

1- Collect the study exercises from the review and submit them to experts for addition and deletion, and the exercises were determined according to the opinion of the experts.

Execute the search experiment:

The proposed training was carried out in its final form in the swimming pool of the **Tanta Sports Club.**

The duration of the training program is 8 weeks. The number of units is 32 units. The unit time is 120 minutes for both ground and water training. 30 for ground training and 90 for water training.

Table (4) shows the time distribution of the training module for the experimental and control groups. The proposed program was implemented on Saturdays, Mondays, Wednesdays and Thursdays every week. The following scientific foundations were taken into account:

Suitable exercises for the age phase - Privacy - Number of repetitions and distances - Interval intervals - Principle of continuity in training.

Table (6)
Time distribution of the search group training module

| Control group Statement | Time | The experimental group Statement | Serial |
|---|------|--|--------|
| Ground Warming (Ground Drill) | ٢٠m | Ground Warming (Ground Drill) | ١ |
| Water Warming | ١٥m | Water Warming | ٢ |
| Water training for the control group | ٦٥m | Water training for the experimental group | ٣ |
| Calming down | ١٠m | Calming down | ٤ |

View and discuss results

Showing results:

Table (7)
**The significance of the differences between the pre and post
measurements of the experimental group In the performance
variables N = 15**

| Variables | Measruing unit | The pre measurement | | The post measurement | | Value of "T" | Changing rate % |
|---|-------------------|------------------------|------|-------------------------|------|--------------------|--------------------|
| | | M | E | M | E | | |
| Swimming time 50 m butterfly | Second | 10,45 | 75,2 | 54,41 | 98,1 | 64,3* | 89,7 |
| Test junior for the performan ce level of 50 m butterfly | Degree | 93,22 | 06,2 | 29,27 | 47,1 | 60,4* | 04,14 |
| Time to stop breathing | Second | 73,43 | 98,1 | 62,51 | 51,1 | 98,10* | 04,18 |

The value of the function "T" is at a significant level of 0.05 = 782.1

Table (7) shows that measurement of the there are statistically significant differences in favor of the post-research sample in the variables in question.

Table (8)
Significance of differences between the pre and post
measurements of the control group In the performance variables
N = 15

| Variables | Measruing unit | The pre measurement | | The post measurement | | Value of "T" | Changing rate % |
|---|----------------|---------------------|------|----------------------|------|--------------|-----------------|
| | | M | E | M | E | | |
| Swimming time 50 m butterfly | Second | 61,44 | 41,2 | 22,43 | 77,0 | 9,1* | 12,3 |
| Test junior for the performance level of 50 m butterfly | Degree | 46,24 | 33,1 | 92,25 | 02,1 | 02,3* | 97,5 |
| Time to stop breathing | Second | 67,43 | 76,1 | 78,45 | 26,1 | 38,3* | 83,4 |

The value of the function "T" is at a significant level of 0.05 = 782.1

Table (8) shows measurement of the research statistically significant sample in the variables in differences in favor of the post- question.

Table (9)
Indication of the differences between the post-measurement of the
experimental group and the control In the performance variables
N = 1 n = 15

| Variables | Measruing unit | The experimental group | | The Control group | | T value |
|---|----------------|------------------------|------|-------------------|------|---------|
| | | M | E | M | E | |
| Swimming time 50 m butterfly | Second | 54,41 | 98,1 | 22,43 | 77,0 | 74,2* |
| Test junior for the performance level of 50 m butterfly | Degree | 29,27 | 47,1 | 92,25 | 02,1 | 65,2* |
| Time to stop breathing | Second | 62,51 | 51,1 | 78,45 | 26,1 | 29,10* |

The value of the function "T" is at a significant level of 0.05 = 711.1

Table (9) shows variables under statistically significant consideration in favor of the differences between the two experimental group. research groups in the

Table (10)
The significance of the differences between the pre and post measurements of the experimental group In the physical variables under consideration N = 15

| Variables | Measruing unit | The pre measurement | | The post measurement | | T value 1 | Changing rate % |
|---|----------------|---------------------|------|----------------------|------|-----------|-----------------|
| | | M | E | M | E | | |
| Strength of the muscles of the legs | Kgm | 66,42 | 61,0 | 34,45 | 52,0 | 58,11* | 28,6 |
| Strength of arm muscles Number of bursts | No | 46,34 | 52,0 | 31,31 | 85,0 | 95,10* | 14,9 |
| Test the overall driving force of the legs | Kgm | 77,2 | 44,0 | 15,5 | 38,0 | 18,14* | 92,85 |
| Swimming speed 15 m with arms (Butcher) | Second | 42,11 | 52,0 | 23,9 | 44,0 | 14,11* | 18,19 |
| Swimming speed 15 m (legs) | Second | 15,11 | 36,0 | 89,8 | 56,0 | 76,11* | 27,20 |

The value of the function "T" is at a significant level of 0.05 = 782.1

Table (10) shows post-measurement of the statistically significant research sample in the differences in favor of the variables under study

Table (11)
Significance of differences between the pre and post measurements of the control group In the physical variables under consideration N = 15

| Variables | Measruing unit | The pre measurement | | The post measurement | | T value 1 | Changing rate % |
|---|----------------|---------------------|------|----------------------|------|-----------|-----------------|
| | | M | E | | | | |
| Strength of the muscles of the legs | Kgm | 38,42 | 51,0 | 71,43 | 76,0 | 03,5* | 14,3 |
| Strength of arm muscles Number of bursts | No | 69,34 | 48,0 | 13,33 | 88,0 | 90,5* | 50,4 |

Follow Table (11)
Significance of differences between the pre and post
measurements of the control group In the physical variables
under consideration N = 15

| Variables | Measruing unit | The pre measurement | | The post measurement | | T value 1 | Changing rate % |
|--|----------------|---------------------|------|----------------------|------|-----------|-----------------|
| | | M | E | | | | |
| Test the overall driving force of the legs | Kgm | 85,2 | 38,0 | 89,3 | 48,0 | 88,5* | 49,36 |
| Swimming speed 15 m with arms (Butcher) | Second | 35,11 | 49,0 | 31,10 | 53,0 | 99,4* | 16,9 |
| Swimming speed 15 m (legs) | Second | 22,11 | 48,0 | 05,10 | 44,0 | 03,6* | 43,10 |

The value of the function "T" is at a significant level of 0.05 = 782.1

Table (11) shows post-measurement of the statistically significant research sample in the differences in favor of the variables in question.

Table (12)
Indication of the differences between the post-measurement of the
experimental group and the control Skill performance in variables
N = 1 n = 15

| Variables | Measruing unit | The experimental group | | The Control group | | T value |
|--|----------------|------------------------|------|-------------------|------|---------|
| | | M | E | M | E | |
| Strength of the muscles of the legs | Kgm | 34,45 | 52,0 | 71,43 | 76,0 | 13,6* |
| Strength of arm muscles | No | 31,31 | 85,0 | 13,32 | 88,0 | 15,5* |
| Number of bursts | | | | | | |
| Test the overall driving force of the legs | Kgm | 15,5 | 38,0 | 89,3 | 48,0 | 13,7* |
| Swimming speed 15 m with arms (Butcher) | Second | 23,9 | 44,0 | 31,10 | 53,0 | 43,5* |
| Swimming speed 15 m (legs) | Second | 89,8 | 56,0 | 05,10 | 47,0 | 50,5* |

The value of the function "T" is at a significant level of 0.05 = 711.1

Table (12) shows statistically significant differences between the two research groups in the variables under consideration for the experimental group.

Second: Discussion and interpretation of the results:

The results of Table (9) and (10) show that there are significant differences between the pre and post measurements in favor of the post-measurement of the experimental group in the measured physical and strength variables of strength of the muscles of the two legs and the back and flexibility of the trunk and shoulders.

The improvement rates of the experimental group ranged from (5.832%) to shoulder elasticity and (10.309%) to the strength of the back muscles.

The researcher attributed these evidence to the experimental group to the proposed exercises that have an effect on muscle strength.

The results of this study agree with Mokhtar Ibrahim (2006) that the ability of aerobic to play a large role in swimming,

Especially when the fatigue factor resulting from the performance of physical duties and skill and planning, therefore,

The development of the use of specialized exercises using the intensity and time and duration of the exciting method of training (En1 - En2) as well as the use of anaerobic exercise for swimming, such as Sp1 Sp2 exercises, which contributed to the enhancement of muscle strength, which was a direct result of the development of speed (85:14)

In this regard, Maglischo (2003) points out that the training exercises the basic capacity of physical attributes such as weight, agility and speed.

Through training on the development of special endurance, the level of the functional, physical and digital players increases and that the training of the swimmers leading to fatigue is necessary to delay the gradual decrease of energy in order to develop the capacity and ability of the swimmer Resistance to fatigue (23)

According to Mohammed Ali Al-Qatt

(2005), speed swimmers must perform part of their training to carry out the En1 exercise by performing exercise exercises with arms and blows, as well as by swimming in different ways.

This will affect the improvement of the circulatory system. In order to achieve targeted adjustments in slow muscle fibers, swimmers must perform some exercises of basic endurance and speed (Spd3-En1) in the main way or swimming methods (48:12)

The results of Table (9) and (10) indicate that there are significant differences between the pre and post measurements in favor of the experimental dimension of the experimental group in the technical variables measured in the time of stop breathing and the testing of the junior for the performance level and the swimming time of 50 m butterfly,

Sheila Taormina (2013) emphasizes that the development of the element of speed is one of the most important physical qualities affecting the speed of the swimmer. Swimmer performance has a clear

importance in improving the digital level. (212: 25)

The results of this study are consistent with the study of the importance of the use of power training in improving the digital level of swimmers during the period of physical preparation and the pre-competition period. Thus, the first hypothesis

The affect method of SP3 ability training at the digital level for a crawl sweep affects a positive effect.

Thus, the first hypothesis has been achieved, which states that there are statistically significant differences between the pre and post measurements in some physical variables and the numerical level of butterfly swimmers.

The results of Table (11) and (12) indicate that there are significant differences between the pre and post measurements in favor of the post measurement of the control group.

The improvement rates for the control group ranged between (2.738%) for trunk elasticity and (1.448%

The results of Table (11) and (12) indicate that there are significant differences between

the pre and post measurements in favor of the post-measurement of the control group in the measured skill variables of the stop breathing time, the junior test for the performance level and the 50 m butterfly time. (4.18%) for stop breathing time (-1.049%) for 50 mph.

The researcher attributed this simple improvement to the control group to the fact that the traditional program applied to the control group does not make noticeable changes.

This was explained by the difference in the percentage of change between the experimental and control groups in the level of performance and the time of swimming 50 mph, which indicates the importance of speed training and breathing control in the development of performance and improve the speed of swimming.

The researcher also attributes the remarkable progress of the control group to the regularity of training as Blythe Lucero (2011) confirmed that regularity in training leads to improved body functions and is positively reflected on the

swimmer's abilities and performance. (21:18).

It should be noted that the improvement rates of the control group in the physical variables were lower than the improvement rates of those in the experimental group.

This confirms that the proposed training program has had an effective impact on the development of physical variables.

Maher Ahmed Assi and Mustapha Hameed Mohammed (2009) confirm that the goal of modern sports training in swimming is to reach swimmers to integrate in the physical, functional, skill, planning, psychological, moral and cognitive conditions that enable them to perform perfectly during the competition (202: 10)

One of the results mentioned above confirms the validity of the second hypothesis, which states that there are statistically significant differences between the pre and post measurements in some physical variables and the numerical level of butterfly swimmers control group control

One of the above results is the validity of the second hypothesis, which states that there are "statistically significant differences between the pre and post measurements of the research groups at the level of performance and time in swimming 50 m butterfly and the time of mutilation of the breath of individuals in the research sample.

The results of Table (13) and (14) show that there are significant differences between the average of the experimental and control groups in the telemetry in all the technical variables under study (stop breathing time, performance level and swimming time of 50 m butterfly).

This indicates that the proposed training program was Positive effect on the development of technical variables and development of performance and time in swimming 50 m butterfly, the values of "T" ranged between - 2.153 for the time of 50 m butterfly and 21.83 for stop breathing time, all higher than the values of "T" table at a level of 0.05, which is equal to 2.179.

These results are consistent with Tariq Mohammed Abdul Wahab's (2014) study, which asserts that speed training improves some physical abilities, including muscular strength and speed tolerance (8)

One of the previous results is the validity of the third hypothesis, which states that there are statistically significant differences between the mean of the two dimensional measurements in the experimental and control groups in some physical variables and the numerical level of the butterfly swimmers and for the experimental research group.

Conclusions

Through the findings of this research, the researcher reached the following conclusions:

- 1- The proposed exercises have a positive effect on the physical variables of the force and the time of self-mutilation.
- 2- The proposed exercises have a positive effect on the performance level and swimming time of 50 m butterfly.
- 3- The proposed exercises have a positive effect on the

experimental group while the traditional program had a small impact on the control group.

Recommendations:

In light of the discussion of the research results and within the sample, the researcher recommends the following:

- 1- Put speed training within the traditional program applied to junior in sports clubs to raise the level of physical fitness.
- 2- Increase the training of the butterfly swim to develop the level of digital swimmers.
- 3- Guided by the results of this research in further studies to develop exercises inside and outside the water contribute to raising the skill level and digital swimming pools

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