

The impact of the use of intensive training on the level of some physical variables for handball players

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Introduction and research problem:

The purposes of sports training methods are varied to meet the needs and variables arising from the current reality of sports as an inevitable result of the progress made in various sports activities.

Handball is a sport that is characterized by a variety of technical performance as well as its physical aspect. This led many researchers to prepare researches and studies to find the best and most appropriate ways to advance them and reach the best levels.

The scheduling of training for players, as well as choosing the appropriate method to ration training loads to contribute to the development of the performance of the players optimally important topics in the planning of sports training. This is confirmed by **Kamal Abdul Hamid and Sobhi Hassanin (1997)** that the training is the main means of

influencing the players, which leads to the upgrading of the functional level and organs of the body, and then the development and development of physical qualities, motor skills and planning aspects. (15:28)

Many scientists agree that Intensive Training means intensifying training loads and increasing the intensity of training to a high degree for a short period, which leads to the development of the physical and technical level of players faster than normal training methods, with the recommendation not to rely on this method for long periods of time during Training season. (20), (18), (19), (22)

Ali al-Baik and Imad al-Din Abbas (2003) also note that intensive training is used for the following reasons:
(1) After the player has been out of training for a period of time or is insufficiently trained for conditions such as examinations, injuries or work.

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(2) raise the level of physical and skill players in preparation for a game or tournament of particular importance.(12: 199)

The researcher has noticed through his assistance in training the handball team at Sadat City University, the problem of the inability of players to attend the training due to study time, as well as the timing of their training with the sports clubs registered with the training times of the university team, where this conflict in scheduling training schedules. In addition to the inability to adjust the rationing of training loads of players to the negative impact on the physical level of players during the training and matches of the university team, and resulting in poor performance in general during the matches of the University of Sadat City University League The Egyptian Handball.

This has attracted the researcher's attention to this problem, and his attempt to find the appropriate solution to avoid conflicting training times (clubs, university team), through scheduling training times and the use of intensive training method in the training of players of the university

team, especially before the games .. to ensure the physical level of players During the league matches.

It confirms the idea that the researcher seeks to implement .. The results of many studies that deal with the impact of the use of intensive training method, where it has found the occasion of this method in the development of physical performance of many sports activities, such as Baker study (2001) (26), Osama Zaki (2002) (2), Matthew Weston et al. (2004) 29, Mazen Abdul Hadi (2003) (17), Marcello Iaia et al. (16), Sadiq Ali (2013) (8), Jabbar Ali (2015) (4), Haider Kazim and Jabbar Ali (2017) (5), Aden Kittel et al. Murtaza Abdul Mahdi (2019) (9).

Through the above in the framework of the researcher seeks to address the problems facing the nature of work with the training of Sadat City University handball team, and emphasize the use of appropriate methods to develop physical performance commensurate with the requirements and training needs .. The idea of the current research came through trying to identify the impact Intensive training on the level of some

physical variables for players Sadat City University handball team?

- Research Objective:

Identify the impact of the use of intensive training on the level of some physical variables for players Sadat City University handball team.

- Research hypotheses:

1- There are statistical significant differences between the averages of the pre and post measurements of the experimental research group at the level of some physical variables for the players of Sadat City University handball team in favor of the post-measurement.

2- There are differences in the rates of improvement between the averages of pre and post measurements of the experimental research group in the level of some physical variables of the players of Sadat City University handball team in favor of the post-measurement.

- Terms used in the research:

- Intensive Training:

It is a short-term training characterized by high intensity and reduced rest time to reach the sports form in a short time, through a change in the dynamics of training load .. Note that this type of training does not continue throughout

the competitive training season. (10: 264)

- Research procedures:

- Method:

The researcher used the experimental method because of its relevance to the nature of the research, using the measurement design (pre-post) to one experimental group.

- Sample:

The research sample was chosen in a deliberate way from the players of Sadat City University handball team registered with the Egyptian Handball Federation. Intensive training method was applied to them, and the researcher hired (12) players (outside the main research sample) were divided into two groups, one distinctive and the other non-distinctive, to conduct the surveys.

The researcher also made sure that the members of the basic and exploratory research sample fall under the equilibrium distribution curve in some growth variables (age, height, weight), training age, The torsion coefficients of these variables ranged from (± 3), indicating the homogeneity of the individuals of the experimental research sample.

- Tools and devices of collecting data:

- Tools and devices used in the research:

Restameter, stopwatch, split wooden boxes, suede seats - mattresses, measuring tape, barriers of various heights, cones and collars, adhesive tape, handball court - handball goals, whistle.

- Physical variables and tests under consideration: (Appendix 1)

The researcher in determining the physical variables for the sport of handball under research, as well as tests for those variables based on a number of references and studies in the field of handball training. (14), (21), (6), (1), (7), (11) .. As shown in Table (1).

Table (1)

Physical variables under research and tests used to measure

serial	Physical variables	Tests used to measure	Measuring unit
1	Endurance	Running and walking 600 yards	Second
2	endure - speed	Running front and back	Second
3	speed	Run 22 meters in a curve	Second
4	Power	Vertical jump for Sargent	Centimeter
5	Strength Muscles	Sit from lying in (30) seconds	Number
6	Agility	Zigzag Running of Barrow	Second
7	Flexibility	Bend the trunk forward from long sitting	Centimeter

- Data registration forms and test results. (Annex 2)

- Exploratory Studies:

It was carried out on the sample of the survey, where the results of the survey resulted in the validation of the tools and devices used in the tests, the experimentation of some units of the intensive training program (proposed), training assistants on how to apply and record the results of the tests, possible errors that appear during the tests to avoid them in the study, Availability

of scientific coefficients for basic skills tests under consideration.

- Validity of physical tests under discussion:

The validity of physical tests under consideration was calculated by finding the validity of differentiation, by applying them to the sample of the exploratory study .. which was divided into two groups (distinct, non-distinct), Table

(2) shows the significance of the differences between the two groups' measurements in the physical tests in question.

Table (2)
Validity coefficients for physical tests are under consideration

Physical tests	Measuring unit	non-distinct		distinct		Calculated (T) value
		Average	deviation	Average	deviation	
Running and walking 600 yards	Second	204.71	4.22	186.53	3.61	7.32 *
Running front and back	Second	135.54	2.39	124.94	1.58	8.27 *
Sprint 22 meters in a curve	Second	4.88	0.26	4.27	0.34	3.19 *
Vertical jump for Sargent	Centimeter	32.65	1.2	37.4	1.75	5.01 *
Sit from lying in (30) seconds	Number	17.85	1.05	20.55	0.95	4.26 *
Zigzag Running of Barrow	Second	33.52	1.24	30.91	1.14	3.46 *
Bend the trunk forward from long sitting	Centimeter	4.46	0.4	5.24	0.35	3.28 *

* Significant level (0.05) = 1.812

It is clear from Table (2) that there are statistically significant differences at the level of significance (0.05) between the mean measurements of the two distinct and non-distinct groups, and in favor of the distinct group in the physical tests in question. This indicates that they can distinguish between different groups, and therefore are honest tests of what they were developed for.

- Stability of physical tests under consideration:

The stability parameters of the physical tests in question were found using the method of applying and re-applying the test (Test-Retest) on the sample of the survey and the number of (6) players representing the distinctive group. Table (3) shows the correlation coefficients between application and re-application of physical tests under consideration.

Table (3)
Stability coefficients for physical tests under consideration n=6

Physical tests	Measuring unit	Test		Retest		Calculated (T)
		Average	deviation	Average	deviation	

	unit					value
Running and walking 600 yards	Second	186.53	3.61	186.45	3.53	0.83 *
Running front and back	Second	124.94	1.58	124.89	1.53	0.87 *
Sprint 22 meters in a curve	Second	4.27	0.34	4.23	0.29	0.94 *
Vertical jump for Sargent	Centimeter	37.4	1.75	27.34	1.67	0.88 *
Sit from lying in (30) seconds	Number	20.55	0.95	20.62	0.9	0.91 *
Zigzag Running of Barrow	Second	30.91	1.14	30.88	1.11	0.93 *
Bend the trunk forward from long sitting	Centimeter	5.24	0.35	5.28	0.3	0.96 *

*** Significant level (0.05) = 0.729**

It is clear from Table (3) that the values of the correlation coefficients between the application and re-application of the tests in question ranged between (0.83 to 0.96), and these values are statistically significant at the level of significance (0.05), which indicates the stability of these tests.

- Intensive training program under consideration: (Annex 3)

- Program Objective:

Improve physical performance level during the preparation of the team Sadat City University handball team in preparation for the participation in Egyptian universities Handball League.

- The basics of developing the program:

* Use of research on intensive training to determine the

duration and configuration of the proposed program loads.

* Appropriate content of the program with its objectives and the level of the research sample.

* Continuity, regularity and privacy in the implementation of the proposed program.

* Flexibility of the program as appropriate during the period of application. Pregnancy formation method (1: 1) and (1: 2) were used for weekly and daily training modules. (6), (1)

* Load dart method was used to shape the proposed program loads. (12) Individual differences for players when implementing and stability training load. (21), (13)

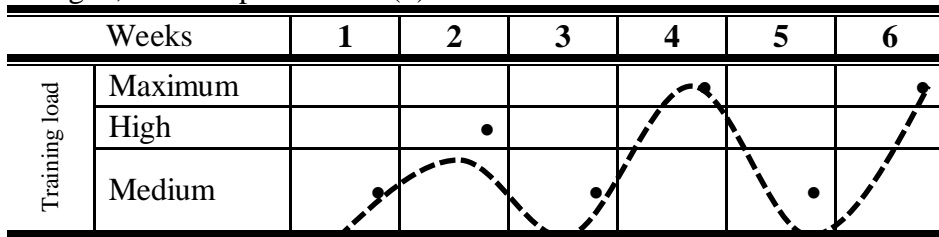
* Consider the dynamics of load components throughout the intensive training program, where the intensity of the training load in the main part

of the training units ranged between (80% to 100%) of heart rate. The intensive training program under consideration was implemented during the preparation period (public and private preparation phase) of Sadat City University handball team participating in the Egyptian Universities Handball League, for a period of (6

weeks (3) daily training units (Sunday, Tuesday, Thursday)) Every week.

* Total time of training unit (90) minutes .. By (15) minutes for physical preparation (warm-up), (70) minutes for the main part, (5) minutes to calm down.

Forming training loads for the program:



- Program Content:

The researcher used some specialized sites in the design of physical exercises for handball players so that the program included a proposal for physical exercises commensurate with the level of the research sample. (33), (32), (31), (30)

Implementation plan and measurements

The basic research experiment and metrics implementation plan was implemented under the supervision of the researcher and assistants, Standardization of conditions was taken into account during the conduct of pre- and post-measurements, according to the time plan shown in Table (4).

**Table (4)
Plan the application of the research experience
and pre- and post-measurements**

Plan	Day	Date	Implementation axes
Pre- measurements	Saturday	09/02/2019	Measurement of physical variables
The beginning of the intensive training program under consideration Sunday 10 February 2019			
The end of the intensive training program under consideration Thursday, March 21, 2019			
Post-measurements	Friday	22/03/2019	Measurement of physical variables

- Statistical Processors:

The SPSS software was used for processing the data. The following statistical techniques were used: the Mean, standard deviation, median, skewness coefficient, t test, Pearson simple

correlation, change rates by percentage. The researcher accepted statistical significance to be at 0.05.

Results and Discussion:

**Table (5)
The significance of the differences between the median of the pre
and post measurements of the experimental research group
in the physical variables under search *n=16***

Physical tests	Measuring unit	pre measurements		post measurements		Calculated (T) value
		Average	deviation	Average	deviation	
Running and walking 600 yards	Second	187.72	10.15	151.48	9.64	10.03 *
Running front and back	Second	125.51	2.37	103.42	1.93	27.99 *
Sprint 22 meters in a curve	Second	4.39	0.62	3.65	0.49	3.63 *
Vertical jump for Sargent	Centimeter	37.15	2.1	44.2	1.45	10.70 *
Sit from lying in (30) econds	Number	20.4	1.85	24.1	1.3	6.34 *
Zigzag Running of Barrow	Second	31.36	1.36	28.52	1.08	6.33 *
Bend the trunk forward from long sitting	Centimeter	5.18	0.45	5.61	0.25	3.24 *

* Significant level (0.05) = 1.753

It is clear from Table (5) that there are statistically significant differences at the level of significance (0.05) between the averages of pre- and post-measurements of the experimental research group in the physical variables under consideration, and in favor of the dimensions.

The researcher attributes the differences between the median of the pre and post measurements of the experimental group in the physical variables (under research) to the effect of using intensive training method which was based on diversification in the use of different training methods. Training, in addition to the use of stretching exercises and flexibility in the periods of positive rest between exercise groups and each .. Which led to the development of muscle capacity of the two men, the transition speed, fitness, flexibility.

Asadi et al. (2017), Latori Roman et al. (2018) note that the continued and increasing emphasis on access to mathematical achievement has led scientists to look for training methods and methods that have positive effects on

performance, and that intensive training is one such way in which capacity can be developed. Physical activity in various sports. (24: 1558), (27: 804)

Baechle & Earle (2000) also indicate that the time required to develop physical abilities in group sports ranges from 6 to 8 weeks, with 3 to 5 daily training units per week. (25: 435)

This is consistent with the findings of studies Baker's (2001) 26, Matthew Weston et al. (2004) 29, Marcello Iaia et al. (2009) 28, Laith Al-Ghurery (2011) 16 Haider Kadhim and Jabbar Ali (2017) (5), Abdulwahab Hammoudi and Murtaza Abdulmahdi (2019) (9) indicated that intensive training techniques can be used to develop the physical performance of players in various sports activities before participating in important games or tournaments.

In the previous presentation, it is clear that the first research hypothesis was achieved, where the researcher confirmed the existence of statistical differences between the median of the pre- and post-measurements of the experimental research group in

the level of some physical variables for the players of Sadat City University handball

team, and in favor of post-measurements.

Table (6)
Improvement rates between the mean and pre-dimensional averages of the experimental research group in the level of physical variables under consideration

Physical tests	Measuring unit	pre measurements	post measurements	Improve ment %rates
		Average	Average	
Running and walking 600 yards	Second	187.72	151.48	19.31%
Running front and back	Second	125.51	103.42	17.60%
Sprint 22 meters in a curve	Second	4.39	3.65	16.86%
Vertical jump for Sargent	Centimeter	37.15	44.2	18.98%
Sit from lying in (30) seconds	Number	20.4	24.1	18.14%
Zigzag Running of Barrow	Second	31.36	28.52	9.06%
Bend the trunk forward from long sitting	Centimeter	5.18	5.61	8.30%

It is clear from table (6) that there are rates of improvement between the averages of pre and post measurements of the experimental group in the level of physical variables under consideration, and for the benefit of telemetry, where the rates of improvement in the variables occurred in the variables ranged between (8.30% to 19.31%), and the variable came Physical (respiratory endurance) ranked first with an improvement rate of (19.31%), while the physical

variable (force characterized by speed) came in second place with an improvement rate (18.98%), and the physical variable (strength of the abdominal muscles) came in third place with an improvement rate. It reached (18.14%), and the physical variable (bearing speed) came in the second place Tep IV had an improvement rate (17.60%), the physical variable (transitional speed) came in fifth with an improvement rate (16.86%), the physical variable (agility) came in sixth place

with an improvement rate (9.06%), while the physical variable came (Flexibility) ranked seventh and last with an improvement rate of (8.30%).

Where the researcher attributed the rates of improvement between the averages of pre and post measurements of the experimental group in the level of physical variables in question to the planning of the overall program of the team. Which was applied to the experimental research sample, It also included the allocation of time for training on the physical capabilities of the handball during the stages of the implementation of the intensive training program, as well as the contents of the program of various physical exercises and rationing components of training loads commensurate with the capabilities of players, and the time period during which the intensive training program and the duration of (6) weeks was Sufficient for an improvement in the physical performance of the research sample.

This is consistent with the results of the studies of **Osama Zaki** (2002) (2), Mazen Abdul Hadi (2003) (17), Sadiq Ali (2013) (8), Jabbar Ali (2015) (4), Akram Jiyad (2016) (3), Aden Kittel et al. (2018) (23) indicated that the intensive training programs applied in these studies improved physical abilities and other variables under these studies.

From the previous presentation it becomes clear that the second search, The researcher confirmed that there are differences in the rates of improvement between the averages of the pre and post measurements of the experimental research group in the level of some physical variables of the players of Sadat City University handball team, and in favor of the post measurements.

Conclusions and Recommendations:

Conclusions:

In the light of the research objectives and hypotheses and within the limits of the research sample, and based on statistical treatments, and the results

indicated by it .. It can be concluded that the use of intensive training led to improve the level of physical variables (under consideration) for players of Sadat City University handball team, as follows:

1- Endurance in the first order rate improvement was (19.31%) for tribal measurement.

2- Power in the second arrangement reached by improvement (18.98%) for tribal measurement.

3- The strength of the abdominal muscles in the third place with an improvement of (18.14%) from the pre - measurement.

4- Bear speed in the fourth place with an improvement of (17.60%) than the tribal measurement.

5- Transitional speed in the fifth rank with an improvement of (16.86%) from the tribal measurement.

6- Agility in the sixth place with an improvement of (9.06%) from the pre-measurement.

7- Flexibility in the seventh place with an improvement of

(8.03%) from the tribal measurement.

- Recommendations:

Based on the results of this research .. The researcher was able to identify the recommendations that are useful to work in the field of handball training, as follows:

1- the use of intensive training during the preparation of the team Sadat City University handball.

2- Identify the effect of using intensive training on physiological variables of handball players.

3- Identify the impact of the use of intensive training during the competition period on the variables of physical and technical performance in sports and different games.

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