Effect of Changing Training Size During the Taper Period on Some Physiological, Physical Variables and Digital Level for 50 M Free Style Swimmers

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Abstract: The study aimed to identify the effect of the change in the training sizes during the period of taper stage on some variables physiological, physical and level digital for 50 m free swimmers. The researcher used the experimental method and selected the research sample in intentional manner of 10 male swimmers in Tanta sports club (11-13 years old and registered in the Egyptian Federation of swimming for the year 2008/2012 in Olympics class) conducted by eight tests included height, weight, speed recovery, lactic endurance, speed endurance and digital level and data was processed statistically. Results indicated that the program of the taper latest range had positive changes on the physiological variables under consideration and there is no difference in the speed of recovery. The researcher recommended that there must be a period of taper to the high levels of less than two weeks and rationing high-intensity training loads and not used for a long time and performing a series of research similar to this study on samples of different ages and different distances.

Key words: Taper Period %Physiological %Physical %Digital Level %50 M Free Style

INTRODUCTION

The achievement levels of international sports is the result of the training rated for periods of the season and the stage of taper phases is important and sensitive and have determined the success of the swimmer to achieve the best times during the different tournaments, as this stage is the harvest of the season training. Preparing swimmer of the physical and psychological aspects is through rationing porter training to achieve the highest possible level of performance during the tournament and support planning, training and rationing loads to the stage of taper on the science and art instructor with the full realization of the nature of individual differences for the swimmers.

The concept of taper preparation is defined for the privacy aspects of the physical and mental health of the swimmers in order to achieve the best possible performance during the tournaments of various as lead training at the stage of the truce to increase the confidence of swimming abilities physical and psychological pressure while reducing the feeling resulting from physical loads used during the earlier phases of the training season [1, 2]. The use of short-period lull for a number of times during the training season reduces the size of the kidneys to training up to 50% and should not be used except in case of necessity [3, 4]. The full training season should contain the taper stage one and key stage to taper short or two-phase only [5]. The results of prior studies conducted on swimmers during the phase of the truce concluded that, from 7-14 days from the most suitable periods for the occurrence of positive effects to the stage of taper as can be maintained on these effects for 14 days, others with the observation of individual differences between swimmers as well as continuing to maintain training levels of intensity and already training during the previous stages of the season training is a high level of intensity greater than the level of intensity threshold distinguishing anaerobic own Swimmer, which range in the range of 90% patching maximum consumption of oxygen and the size ranges from 12-15% of the size of the daily training will lead to improved endurance capacity of the antenna [6]. As for the rate of decline in weekly training volume the decline in weekly training volume may reach 50% of the maximum size during the main phase of the truce [5].

The findings of various studies on the reduction of size weekly from 80 to 90% is considered appropriate for the stages of taper, short and less than 10 days also prefer to reduce the size of training weekly from 60 to 70% for...
the stages of the truce the longest and generally the reduction of weekly training volume of 65-80% of the maximum size of the weekly training through the stages of the season, a period of 2-4 weeks to help the emergence of positive adaptations to the different stages of taper as the number of times a range of training per week during this phase of 5-6 days was even pure swimmers physical abilities that have been acquired during the various stages of the season training and also avoid the swimmers ability to sense the water drop with the increase in the number of weekly training times [6]. That there is a set of physiological changes that occur to swimmers due to the use of different types of stages of taper and of which happens to increase the size of glycogen muscle and range of this increase between 8 Although 35% of non-use method of carbohydrate loading, increase muscle power by 24.6%, which leads to an improvement in tensile strength, a lack of focus Alcirbetin kinase enzyme, which means muscle repair muscle fibers that have been damaged as a result continuous training, increases the speed of muscle contraction by 37% slow muscle fiber and 55% muscle fiber fast it well that the level of both strength and muscle power, aerobic improvement occurs capacitance as well as muscular endurance aerobic and anaerobic. Also does not show improvement in each of the maximum oxygen consumption and capacity of organizations vital, increases blood volume and the number of red blood cells but did not improve the level of the threshold distinguishing anaerobic and did not improve the level of concentration of lactic acid when using intensity less than the maximum while the heart rate from 8-26% at least swimming severity of the maximum [4, 6, 7]

From the above and through the work of researcher training swim along with access to sources of various scientific have noted the method of random use of training loads during the truce between most of the coaches swimming including does not comply with their importance in addition to the rapid decline of the use of sizes of training without taking into account the principle of balance between the lower sizes and the preservation of the gains of training and Walt made swimmers throughout the training season and that he should not have swimmers to aspects of the different adaptation, which was acquired through the stages of the training season with the increase in the level of speed for a distance race specialist and also lack of knowledge of the effect of this reduction of loads training variables, functional, a physical abilities. There is still an accurate knowledge of the nature of the functional and physical changes affecting performance and during this phase are not clear [6]. Along with the use of most swimming coaches for a unified program for phase truce and a large number of swimmers whether male or female. Add to that the lack of training of swimming for studies dealing with this stage the study and analysis. This has turned researcher to conduct this study to the stage of the truce, which is one of the milestones season training to see how changes in the pulse rates of the swimmers and the level of achievement (physical skills, digital) also show the importance of the study in trying to legalize the use of training loads for this phase, especially for swimmers emerging to show the group the changes to some physical abilities decline as a result of training sizes.

Research Aims:

C Identifying the effect of the change in training size during the period taper on some physiological physical variables.
C Identifying the effect of the change in training size during the period taper on the digital level swimmers 50m free style.

Hypotheses:

C There are significant statistical differences between tests pre and post changes in the rates of some physiological and physical abilities for the benefit of test post.
C There are significant statistical differences between tests pre and post the digital-level of 50 m swimmers in favor of a free post-test.

MATERIALS AND METHODS

The researcher used the experimental method of one group using pre and post-tests. The research sample was elected intentionally of male swimmers in Tanta sports club (11-13 years old and registered in the Egyptian Federation of swimming for the year 2008/2012 in Olympics class). 18 swimmers were chosen, 8 swimmers were as a pilot study, so the research sample became 10 swimmers chosen according to moderation data for tests in each of the age, height, weight and training period.

It is clear from Table 1 that the values of torsion coefficient ranged between 0.00 and 0.536 is confined between ±3 which shows the moderation of data and homogeneity of the sample.
Table 1: The arithmetic mean, median, standard deviation and coefficient of torsion in the tests (age, height, weight and training period) n = 10

<table>
<thead>
<tr>
<th>Variables</th>
<th>UM</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age year</td>
<td></td>
<td>11.9</td>
<td>12.0</td>
<td>0.875</td>
<td>0.223</td>
</tr>
<tr>
<td>Height cm</td>
<td></td>
<td>156.10</td>
<td>155.5</td>
<td>3.035</td>
<td>0.536</td>
</tr>
<tr>
<td>Weight kg</td>
<td></td>
<td>58.20</td>
<td>57.00</td>
<td>5.827</td>
<td>0.277</td>
</tr>
<tr>
<td>Training period</td>
<td>year</td>
<td>4.00</td>
<td>4.00</td>
<td>0.816</td>
<td>0.000</td>
</tr>
</tbody>
</table>

UM = Unit of test; SD = Standard deviation; SC = Skewness coefficient

Data Collection Tools: The researcher used the following tools and equipment to make tests of search:

Key Measures:

C Measure the height: rstamitr device, unit of measure (centimeter).
C Measuring weight: balance of the medical device, unit of measure (kilogram).

Physiological Variables:

C Measuring the speed of recovery by measuring the pulse (directly before performance - directly after the performance - performance after 3 minutes) to race 4 × 50-meter freestyle with the convenience of 30 seconds.
C Test of lactic endurance: by swimming 4 × 50-meter freestyle with the convenience of 15 seconds.

Physical Variables:

C Speed endurance: the average time of swimming 4 × 50-meter freestyle with the convenience of 10 seconds.
C Level Digital: by measuring the time of 50 m free.

Pilot Study: The study was conducted during the reconnaissance on Thursday and Friday 9, 10/10/2008 to contingent exploratory sample (8 swimmers) representative to the research community and extra-strength of the research sample in order to identify:

C Difficulties during the tests.
C The optimum arrangement for the tests.
C Speed control and hardware setup and assistants to perform tests.

Pre-test: Pre test was carried out on two days in the period between 16, 17 / 10/2008.

Between Tests: Between tests was carried out on two days in the period between 23, 24 / 10/2008.

Post-test: Post test was carried out on two days in the period between 30, 31 / 10/2008. The first day was to collect tests of physical variables and the second day of the physiological variables and the digital level.

Statistical Treatments: All statistical treatments of the data have been carried out using computer packages of statistical programs where Spss Statistical analyzes included the following: arithmetic mean, median, standard deviation, coefficient of torsion, the correlation coefficient, the percentage of improvement and (T) test to calculate the significant differences, variance analysis and degree of effectiveness.

RESULTS AND DISCUSSION

The Physical Variables: It is clear from Table 2 that there are significant differences between the tests (pre, between and post) where the total (2.400) was in favor of post-test for the variable level digital for a distance of 50 m where the time of a free 50m swimming was 3.600 in favor of post-test.

It is clear from Table 3 and private variables physical (speed endurance - level digital to a distance of 50m freestyle) the presence of significant statistical differences between the pre and post-tests where the (t) value calculated at the level 0.05 to bear the speed of 3.58 and level of digital for a free distance of 50 m amounted 13.50 and the percentage of improvement to withstand the speed recorded 7.40 and the digital level to a distance of 50 meter freestyle was 11.11.

The researcher sees that those results may be due to the apparent decrease and loads of training and this is the main goal of the true phase which increases the mental capacity and therefore increases the speed of the swimmer for a distance of 50 m free and this is confirmed by the results of previous studies [3, 6, 8, 9].

The Physiological Variables: It is clear from Table 2 that there are significant differences between the tests (pre, between and post) to the variable lactic endurance reaching 3.82 for the post-test and the variable speed recovery where it reached 0.300 directly before the
Table 2: Significant differences between the three tests of the variables (physical - Physiological - digital level) under the experimental group (n = 10)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>(t) Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed endurance</td>
<td>Pre</td>
<td>-</td>
<td>0.800</td>
</tr>
<tr>
<td></td>
<td>between</td>
<td>-</td>
<td>0.800</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>-</td>
<td>0.800</td>
</tr>
<tr>
<td>Speed recovery before</td>
<td>Pre</td>
<td>-</td>
<td>0.800</td>
</tr>
<tr>
<td>performance directly</td>
<td>between</td>
<td>-</td>
<td>0.800</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>-</td>
<td>0.800</td>
</tr>
<tr>
<td>Speed recovery after</td>
<td>Pre</td>
<td>-</td>
<td>4.100</td>
</tr>
<tr>
<td>performance directly</td>
<td>between</td>
<td>-</td>
<td>4.100</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>-</td>
<td>4.100</td>
</tr>
<tr>
<td>3 minutes after performance</td>
<td>Pre</td>
<td>-</td>
<td>4.500</td>
</tr>
<tr>
<td></td>
<td>between</td>
<td>-</td>
<td>4.500</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>-</td>
<td>4.500</td>
</tr>
<tr>
<td>Lactic endurance</td>
<td>Pre</td>
<td>-</td>
<td>0.911</td>
</tr>
<tr>
<td></td>
<td>between</td>
<td>-</td>
<td>0.911</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>-</td>
<td>0.911</td>
</tr>
<tr>
<td>Time of a free 50m swimming</td>
<td>Pre</td>
<td>-</td>
<td>2.600</td>
</tr>
<tr>
<td></td>
<td>between</td>
<td>-</td>
<td>2.600</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>-</td>
<td>2.600</td>
</tr>
</tbody>
</table>

* (t) table value on p×0.05 =1.83. SD =standard deviation.

It is clear from Table 3 and private variables physiological (lactic endurance and speed recovery) that there were significant statistical differences between the pre and post-tests where the (t) value calculated at the level 0.05 to withstand the lactic amounted to 9.34 and recovery speed amounted to 8.25, 7.00 and the percentage of improvement to withstand the lactic was 10.57 and the recovery speed was 10.46, 11.37.

The researcher attributes the results to the apparent decrease in the training loads and the positive effects of the program of the truce and the latest range of positive changes in physiological variables under consideration for recovery speed (immediately after the performance -3 minutes after performance) and variable lactic acid. Besides, there is no difference in the recovery speed (directly before performance) and results are consistent with the results of prior studies [3, 4, 6, 10-12].

**CONCLUSION**

The Researcher Concludes the Following:

- There must be a period of taper to the high levels of less than two weeks.
- Improving the level of the digital distance race.
- There must be a speed low pulse rate after the performance of the maximum intensity.

Recommendation: The researcher recommends the following:

- Performing series of research similar to this study on samples of different ages and distances.
- Performing series of research similar to this study in other individual sports.
- Rationing high-intensity training loads and not used for a long time.
REFERENCES