Bulletin of the *Transilvania* University of Braşov
Series IX: Sciences of Human Kinetics • Vol. 11 (60) No. 2 - 2018

ANALYSIS OF THE ABSOLUTE AND RELATIVE VALUES OF THE TOOLS FOR JUMP PREPARATION PER MESOCYCLES IN THE WOMEN'S TRIPLE JUMP DISCIPLINE

Tereza MARINOVA [1]

Abstract: *The objective of this study is to improve the management of the triple jump workout for women, analyzing the preparation of Teresa Marinova, Olympic, World and European champion in the discipline. As a basis for analysis we chose the year when the athlete achieved the greatest success in her career, i.e. the Olympic title during the 1999/2000 sports competition season.*

Analyzes may result in an improved training process in the women's triple jump. The effectiveness of the sports shape management in highly qualified athletes is determined not only by the applied cumulative workload volumes but also by the rational load organization in the individual mesocycles of the macrocycle. In this publication, they are presented and analyzed as follows: Absolute values of the tools for jump preparation per mesocycles during the 1999-2000 sports competition season and Relative values of the tools for jump preparation per mesocycles during the 1999-2000 sports competition season (%).

Key words: *triple jump, women, training.*

1. Introduction

The triple jump is a complex spatial acyclic exercise with a marked speed-force character. This is a complex and attractive athletic discipline in which the support and flight phases in the jump, the step and the jump alternate with the rapid movement of the body. The achievement in the triple jump depends on the combination of speed, power, and technique and movement control. The length of the leap body depends on the initial take-off speed, the angle and the height of the total centre of gravity of the body after each depression [1].

With this study we want to help to improve the management of the triple jump workout for women, analyzing the preparation of Teresa Marinova, Olympic,

[1] NSA "Vassil Levski", Sofia, Bulgaria

World and European champion in the discipline. Analyzes may result in an improved training process in the women's triple jump [2, 3].

The effectiveness of the sports shape management in highly qualified athletes is determined not only by the applied cumulative workload volumes but also by the rational load organization in the individual mesocycles of the macrocycle. The ratio between the different types of preparation, as well as between the different training tools within each mesocycle determines the direction of preparation, the priorities in the development of individual aspects of the sports preparation, thus outlining the way to improve the sports result as an integral indicator for the sports shape.

The primary objective of this study is to reveal the specifics of the training workload organization within the annual training cycle in a highly qualified triple jump female competitor. For this purpose we have analyzed the absolute and relative values of the preparation tools per mesocycles implemented by Theresa Marinova, Olympic, World and European champion. As a basis for analysis we chose the year when the athlete achieved the greatest success in her career, i.e. the Olympic title during the 1999/2000 sports competition season [4–8].

2. Objective

To analyze the data of the jumping training tools per mesocycles.

3. Results

The analysis of the data shown in Tables 3 and 4 demonstrates the preference of the research competitor regarding the selection of jump preparation, as well as the sequence of their inclusion and drop-out in time.

During the first preparation mesocycle, only vertical jumps are included in the training programs. They are performed at a lower intensity and are intended to strengthen the muscles around the ankle joint.

In the next mesocycle (November) the use of horizontal multiple jumps begins. Initially this type of jump exercises are performed at a length of 40 – 50 m. The number of ejections in one series is 15 – 20, and a total of 100 – 150 ejections are performed in a training session. An additional weight burden on the body (elastic band pulled by a partner), as well as aggravation of the external environment conditions (opposite a slope) is also implemented. Horizontal multiple jumps are performed with a small preliminary approach (runs up to full speed) or from a place.

Gradually, the length (number of ejections) in a series is reduced to 25-30 m (10 ejections), while increasing the performance intensity and the speed, and also the striving for a higher score.

Table 1

Absolute values of the tools for jump preparation per mesocycles during the 1999-2000 sports competition season

Month / Tools	X	XI	XII	I	II	III	IV	V	VI	VII	VIII	IX	Total
Vertical jumps (ejections)	990	1,68	1,815	753	1,229	1,57	1,068	534	204	1,39	1,003	181	**12,417**
Horizontal multiple jumps (ejections)		440	1140	710	1,45	2,06	1,55	690	60	1,6	640		**10,34**
Long jump from place (no.)		30	43	28			10	15	3		9		**138**
Double jump from place (no.)			43	28			11	15	3				**100**
Triple jump from place (no.)			24	28									**52**
Quintuple jump from place (no.)			13	5									**18**
Long jump (no.)			8	36			10						**54**
Triple jump with acceleration (no.)						10	39	49			13	13	**124**
Quadruple jump 8 – 12 running steps (no.)							7	20	5		8		**40**
Quintuple jump 8 – 12 running steps (no.)								34	9		31	14	**88**

Table 2

Relative values of the tools for jump preparation per mesocycles during the 1999-2000 sports competition season (%)

Months / Tools	X	XI	XII	I	II	III	IV	V	VI	VII	VIII	IX	Total
Vertical jumps	7,97	13,5	14,6	6,1	9,9	12,6	8,6	4,3	1,64	11,2	8,08	1,46	**100**
Horizontal multiple jumps		4,26	11,03	6,87	14,0	19,9	14,9	6,7	0,58	15,5	6,19		**100**
Long jump from place		21,74	31,16	20,3			7,25	10,9	2,17		6,52		**100**
Double jump from place			43	28			11	15	3				**100**
Triple jump from place			46,15	53,9									**100**
Quintuple jump from place			72,2	27,8									**100**
Long jump			14,8	66,7			18,5						**100**
Triple jump with accelera-tion						8,1	31,4	39,5			10,5	10,4	**100**
Quadruple jump 8–12 running steps (no.)							17,5	50	12,5		20		**100**
Quintuple jump 8–12 running steps (no.)								38,6	10,23		35,2	15,91	**100**

The horizontal multiple jumps reach their maximum monthly volume in March, i.e. 2,060 ejections, which is 19.92% of the total annual volume. This is a fairly large volume, given that the objective during this period is to perform the jumping exercises with a higher intensity.

In the next mesocycles (April and May), the number of the horizontal multiple jumps decreases significantly, and in June it is negligible (only 60 ejections). The reason for this is the participation of the research competitor in a series of competitions during the period.

An increase in the volume of the horizontal multiple jumps is observed in July and August (1,640 ejections, 15.47% and 640 ejections, 6.19% respectively). These are the months intended for special preparation for the Olympic Games and they represent the second stage of the special physical training during the sports competition season.

The actual improvement of the technique through exercises that are as close as possible to the dynamics and kinematics of the competition triple jump starts only in March with the performance of a minimum number (only 10) of jumps after acceleration of 6 run steps.

Over the next two months, the number of jumps increases, reaching its peak in May (49 jumps, 39.52%). During the first period of the spring/summer sports competition season (June and July) the triple jump is discontinued as a training tool. In August the triple jumps are resumed again with an acceleration 10 to 14 run steps but the amount of these jumps is minimal (only 13).

In addition to the triple jump, quadruple and a quindruple jumps are used to improve the technique, with an acceleration of 8-12 run steps.

The Quad and Five Jumps of different lengthwise runout are an important means of improving the triple jump technique. The quad jump is performed in the sequence "hop" - " hop " - "step" - "jump".

The two-fold consecutive execution of high speed gambol implies a better improvement of this jump feature. The fifth jump is performed in the sequence " hop" - "step" - "step" - "step" - "jump". In this exercise, the emphasis is on the execution of the step.

The achievement in the triple jump is a quantitative expression of many factors, different in nature, structure and essence, but inextricably linked to each other. Depending on their nature they may be genetically determined or acquired in the course of multi-year preparation.

Their implementation begins in April. The maximum values of these training tools are in May (20% and 34%, respectively), and in July they are discontinued, which is again in connection with the change in the training tools in relation to the intermediate mesocycle of special training during that month.

4. Conclusions

The volume distribution of the main preparation tools per mesocycles is determined by the preset objectives.

The load distribution of the main preparation tools per mesocycles is “wavy”. The generic training tools aimed at developing more general, non-specific skills for the triple jump are increased in volume in the first few mesocycles of preparation for each macrocycle.

With the approach of the competition period and the need to enter into a sports shape, the nature of the training changes, including new, more specific, step-by-step and drop-out training tools.

References

1. Jalov, К.: *Training in triple jump*. Sofia, 1977.
2. Marinova, T., Miladinov, O., Vangelov, A.: *Study of competition preparation of elite female triple jump athletes*. In: Track and fields & science, 1(15), 2015, Sofia
3. Miladinov, O., Jonov, J.: *Training in long and triple jump*. Sofia, NSA, 2001.
4. https://www.iaaf.org/athletes/bulgaria/tereza-marinova-110013. Accessed: 06-01-2018.

5. https://books.google.bg/books?isbn=8172542348 Accessed: 06-01-2018. .
6. https://books.google.bg/books?isbn=0810867818. Accessed: 06-01-2018.
7. https://books.google.bg/books?isbn=1412976855. Accessed: 06-01-2018.
8. https://books.google.bg/books?isbn=1615353291. Accessed: 06-01-2018