
ASSESSMENT OF TRAINING PROGRAMMES FOR DEVELOPMENT OF SPEED-FORCE QUALITIES WITH VOLLEYBALL PLAYERS

Ralitza Arsova

UNWE, Sofia, Bulgaria, rali.arsova@abv.bg

Abstract: Development of physical qualities and motor capabilities undergo changes requiring a new view on the methods of this process, at the conditions of its dynamic manifestations.

Nowadays, especially topical is the issue connected with the increasing of the quality of preparation for the sport reserves in volleyball. In the broad sense of this concept, it is the achievement of such basis of preparation, on the side of the young volleyball players that would allow them to continue their successful training at the stage of their sport perfection. The united process of the sport training of volleyball players is consisted of six organically interrelated types of preparation: physical, technical, tactical, psychic, theoretical, and playing. One of the main ways for increasing the quality of preparation of young volleyball players is the physical preparation which is a basis for education and perfection the technique of playing. Therefore, the increasing of the level of physical preparation of growing up contestants – is one of the most important tasks, the trainers are trying to endeavour with, each day. The main thing with the sports characterizing by complex manifestation of motor qualities, volleyball being one of them, is that the special physical preparation is realized basing the special force preparation, requiring a complex development of explosive force, speed-force (jumping) endurance, force dexterity, and etc. The problem for development of the force is of important significance for forming up of the contestants. The character of the force manifestation in a separate sport motion and its interdependence with the other physical qualities, have always worried the sport teachers.

The aim of this investigation is to compare and make assessment of the efficiency of the specialized (fitness and field) training programmes for young female players.

Under the influence of the specialized training work by the means offered in the developed by us fitness and field programmes, during the period of investigation, significant positive changes occur at the level of development of almost all observed indices of speed-force preparation with female volleyball players from the experimental group.

Keywords: volleyball, female students, physical preparation, motor qualities

1. INTRODUCTION

The high level of physical development, as well as the better speed-force preparation of growing ups lie at the base and are defining factors for the high level of technical-tactical skills of young female volleyball players.

In the process of participation in the game both general and special efficiency are required by the contestants. The thorough analysis of the certificate of motor volleyball activities and respectively the abilities for development of adequate for the purpose physical qualities (force, speed, endurance, flexibility and dexterity), shows that the methods of training should be revised and renewed according to the requirements of the contemporary volleyball game. The individual approach corresponding to the playing position and the peculiarities of each one contestant sets as a task the developing of individual program models of conditional preparation. These models should be developed on a way, aiming optimum realization of contestants within the ranges of the planned strategy of playing. (Y. Karabiberov, 2016).

Taking into consideration the complex character of volleyball game, the sport experts should control the force abilities of the contestants, requiring registration of the maximum explosive (jumping) force and of the speed-force endurance, i.e. its complex manifestation (Brogley, 2012; Fomin, 2012). There are many sport experts whose scientific works and developments are connected to the physical ability and speed-force preparation of volleyball players (Arsova, 2016; Ivanov 2018).

In researche of Stoilov (Stoilov, 2017) summarises that the most generalizing criterion for trainability is the sport result shown at the matches. According to him however, it does not allow controlling the separate parts of the sport preparation (physical, technical, tactical and etc.). Therefore, system of tests (test batteries) is used, giving opportunity to define the level on the separate components of the sport preparation. He approves test battery used for controlling and assessment of students practicing futsal includes 7 tests, estimating the physical and technical preparation.

The development of the contemporary volleyball, the high level of the achievements requires constant perfection of the motor qualities, sport technique and all factors connected to the sport results. (Achieving of high sport results is determined by perfection of methods for physical preparation).

2. METHODS

Subject of investigation are the main indications of physical preparation in volleyball. Object of the investigation is the speed-force preparation of 17-19 years old female volleyball players.

For realization of the aim and tasks set in the investigation, the following methods have been applied: thorough investigation and theoretic analysis of the specialized literature; sport-pedagogical testing; sport pedagogical experiment. Two training programmes (fitness and field) for development of the speed-force qualities of 17-19-years old female volleyball players have been developed.

Training influence at the experimental programme in fitness is realized chiefly by means of fitness, which imposes for the training activities to be held in fitness halls. Programme is of duration 4 months. Three training lessons are held per week (Monday, Wednesday and Friday), each one being of duration 50 minutes. During the sport-pedagogical experiment the female contestants from the experimental group have been subjected to the influence of the specific training means for development of the speed-force qualities, included in the developed experimental training programmes.

The second experimental programme aims the development of speed-force qualities at field conditions (on the volleyball field). Important moment at its applying is the development of the special motor qualities with the specific means of volleyball game.

3. ANALYSIS OF THE RESULTS

For settlement of the aim and tasks of the investigation, assessment of the results of female volleyball players from the experimental group has been made, reported in the beginning and in the end of both, subjected to approbation training programmes. For the purpose the signal method of assessment has been applied. The average results on each indication investigated got in the beginning and in the end of the experimental programme are presented on Table 1.

Table 1. Assessment of speed-force preparation of competitors at the beginning and end of each of the two experimental programs

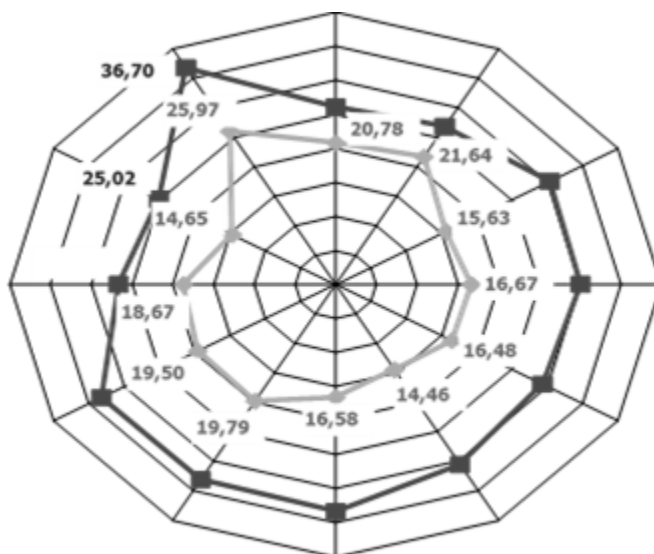
№	Indices / Parameters	fitness-programme		field- programme	
		beginning	end	beginning	end
1.	Dynamometry – strong hand	20,78	26,05	24,61	27,45
2.	Dynamometry – weak hand	21,64	26,78	24,31	26,79
3.	Solid ball catch – strong hand	15,63	30,31	27,62	32,28
4.	Solid ball catch – weak hand	16,67	30,08	26,70	33,12
5.	Solid ball catch – two hands	16,48	29,31	26,44	29,86
6.	Volleyball ball – striking hand	14,46	30,52	25,83	30,39
7.	Abdominal presses	16,58	33,33	21,60	27,80
8.	Standing position vertical jump	19,79	33,11	25,74	32,40
9.	Vertical jump after gaining strength	19,50	33,20	25,72	32,85
10.	Standing position long jump	18,67	26,59	23,49	28,83
11.	Long jump (triple)	14,65	25,02	23,36	27,87
12.	Squatting to give up	25,97	36,70	26,22	28,15
	Summary average result (ΣT)	18,40	30,08	25,14	29,82

Good illustrative idea of the amount of the results of fitness-programme gives *Fig. 1*. The analysis of the figure shows that in the beginning of the first training programme, the average results at 11 of the investigated 12 indices are lower than the average for the investigated aggregate (25 p., on 50-grade system for assessment).

From the figure, it is evident that the results are in the range between 14,46 p., at 19th index (“throwing of volleyball ball by the striking hand”) and 21,64 p. – at 15th index (“dynamometry of the non-dominating hand”). The only exclusion is index 25 (“squatting until refusal”), on which the result is 25,97 p. and it shows that at the starting up of

the fitness programme, the female participants in the experimental group have got higher level than the average one for development of the speed-force endurance. As seen, it is the best developed motor quality with the investigated female contestants. As a result of the applying of the training influences, included in the experimental fitness-programme, positive changes occur at the level of all observed indications of the speed-force qualities of the investigated female volleyball players.

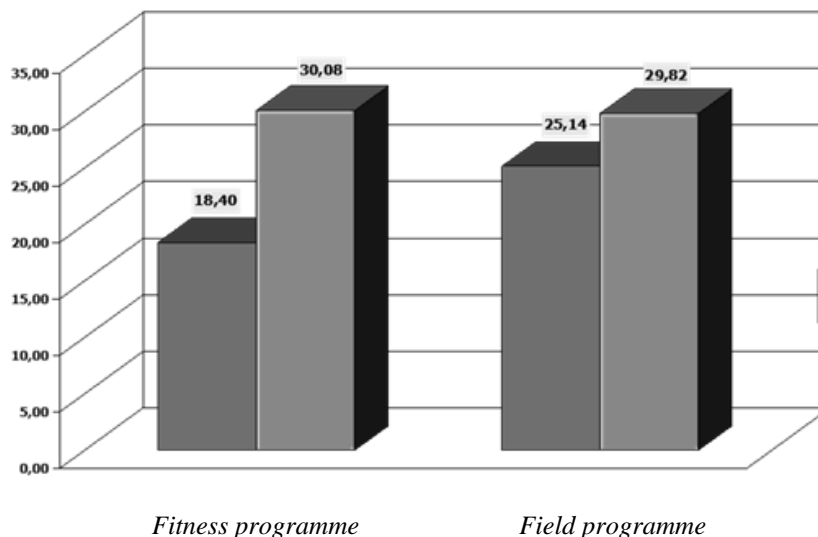
Fig. 1. Assessment the effectiveness of the fitness program



The lowest result in the end of the experiment is 25,02 p., (at 24th index), which is higher for the investigated aggregate, and the highest is already 36,70 p. (at index 25).

The summarized average result (ΣT), that could serve as analogue of the speed-force preparation of 17-19 years old female volleyball players, in the end of fitness programme is 30,08 p. (*Fig. 2*).

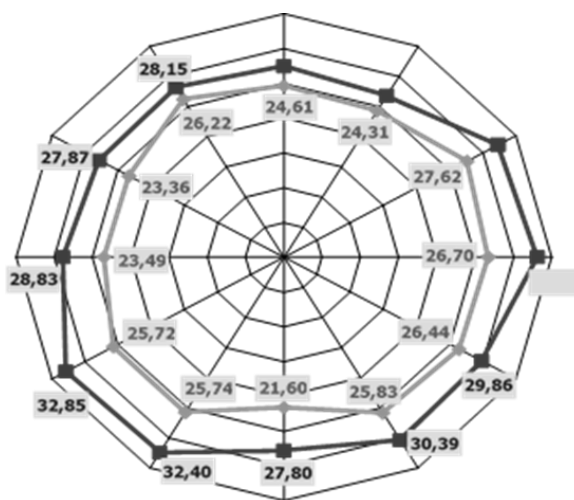
Fig.2. Summarized average result of the speed-force preparation



As apparent from the Figure, this result is by 11,68 points higher than the one got in the beginning of this stage of the sport-pedagogical experiment. As a result of applying the field programme, the experimental group achieved almost the same level of the speed-force preparation ($\Sigma T = 29,82$ p.). The growth here is much lower – only 4,68 p.

It gives a reason to deem that the experimented fitness-programme is much more efficient than the field one. Proof of that are the results, presented on *Fig. 3*.

Fig. 3. Assessment the effectiveness of the field program



Nevertheless of the assertion made, (at the comparing of the average results), what makes impression is that at half of the indices, the level achieved in the end of the field programme is higher than the established one after the fitness-experiment.

Therefore, we deem that for achieving a higher level of development of speed-force qualities of 17-19 years old female volleyball players, it is necessary to combine both training programmes skillfully. This would increase the efficiency of the efforts put in, both by the female contestants and trainers.

4. CONCLUSION

Under the influence of the specialized training activity by the means offered in the developed by us fitness-programme, during the period of investigation significant positive changes have occurred at the level of development of almost all indices of the speed-force preparation observed with the female volleyball players from the experimental group. Exclusion has been observed only as regards the grip strength.

As a result of the carried out field experiment, significant positive changes have occurred regarding: the explosive force of the non-dominating upper limb at optimum resistance, explosive force of the dominating upper limb at insignificant resistance and explosive force of lower limbs at muscle efforts at the vertical plain.

Experimental fitness-programme is much more efficient than the field one, which allows the achieving a higher level of development of: explosive force of upper limbs and explosive force of lower limbs at horizontal muscle efforts.

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