

SPECIALIZED PHYSICAL TRAINING - A FACTOR FOR THE DEVELOPMENT OF THE MOTOR ABILITIES AND A BASIS FOR THE EFFICIENCY OF THE VOLLEYBALL TRAINING AT THE SECONDARY SCHOOLS

UDC:796.325.015.1-857.87
(Preliminary communication)

Maria Doncheva

*Technical University of Varna, Department of Physical Education and Sports,
Varna, Bulgaria*

Abstract:

The purpose of the study is to determine the impact of model complexes on the development of motor skills which are important for the volleyball game. The pedagogical experiment was conducted over a period of nine months (one school year) among 54 tenth grade pupils at the National Secondary School of Humanitarian Science and Arts "Konstantin Preslavski". The plan of the subjects to be examined contained also the seven model complexes for the development of the main motor qualities. The analysis of the results of the investigation of the specialized physical training of the pupils who study volleyball at school allows to draw the following conclusions and generalizations: The model complexes of exercises for the development of specialized motor abilities have facilitated the successful development of the investigated indicators; The application of the model complexes will contribute to the optimizing of the relation between the physical (motor) qualities and the successful formation of the motor habits.

Key words: *experiment, students, tests, programs, coefficient of variability*

INTRODUCTION

The physical training, one of the most important elements of the sports training of those engaged in volleyball, is oriented to the establishment of a good functional basis for the game, as well as for the development of the motor qualities strength, dexterity, endurance, fastness and flexibility [1,3,4].

The specialized physical training has an important place in the process of volleyball training. The problem for the building of the physical (motor) training of the volleyball players is solved by means of the specialized physical training. Through it the motor qualities are formed in a specific way in an immediate relation to the motor habits which are typical of the volleyball technique [2]. That is why it is necessary that specific means and methods should be found, which by their directed influence respond in an adequate manner to the needs of the game.

In this study model complexes for the development of the main motor qualities are presented, with the aim of realizing the elements of the struc-

ture of the pupils' motor abilities in the volleyball training.

The presented model complexes (Appendixes 1,2,3) for the development of the physical (motor) qualities include:

Exercises for general improvement of the functional condition and for development of the motor abilities

Exercises for enrichment of the motor culture; coordination exercises; exercises for development of dexterity and flexibility

Exercises which by the nature of the nerve and muscular effort are similar to the games in volleyball

The **Aim** of the pedagogical experiment was the establishment of the influence of model complexes on the development of key motor qualities in accordance with the specifics of the volleyball game.

The main purpose of the study is the investigation of the influence of the complexes on the development of some conditional and coordination characteristics of the pupils at the secondary schools, as a precondition for quality and effective conducting of the volleyball lessons.

METHODS

We have used complex methods, including pedagogical observation, pedagogical experiment, studying of specialized scientific literature and mathematical and statistical processing of data.

The pedagogical experiment was conducted over a period of nine months (one school year) among 54 tenth grade pupils at the National Secondary School of Humanitarian Science and Arts "Konstantin Preslavski". The plan of the subjects to be examined contained also the seven model complexes for the development of the main motor qualities.

For the purpose of establishing the level of their development we have used the following tests: sprint 50 m, standing long jump, dynamic flexibility, medicine ball throwing (3 kg), dexterity (normative) and dash (300/600m)

ANALYSIS OF THE RESULTS

The demonstration of fastness in its three dimensions is particularly characteristic of volleyball. In the improvement of the speed abilities each of its three forms should be developed: the fastness of reaction, the fastness of moving and the fastness of the individual movement.

By the indicator *dash 50 m*, the speed abilities of the investigated group were determined. The data illustrated in Table 1 do not show considerable differences between the measured input and output values of the study. The average input values are $\mu_1=9,6$ and the output values are $\mu_2=9,9$. The coefficient of variation is 15,8 % and 17,3 %, respectively, which indicates that a large proportion of the investigated group has the established speed potential. The average values of the group indicate minimal variation in comparison with those of the National survey in the big cities in 1982.

For the purpose of diagnosing the indicator *burst strength* of lower limbs the standing long jump test is included. The group has increased its result in this indicator by $d=+1,06$ centimeters, which in our view is due to the effect of the model complexes on the development of strength. Part of the exercises in them have general effect, others are purpose-oriented (they are oriented to the development of particular muscle groups) and third are specific, related to concrete material of the syllabus. The coefficient of variation at the end of the study is almost unaltered, which is indicative of the homogeneity of the investigated group.

As is known by specialized literature, the dexterity exercises are to a large extent included in the specialized volleyball exercises (Appendix 2). Dexterity is a quality which is most closely related

to the other motor qualities and is of more complex nature. By the *dexterity* test the coordination abilities of the pupils are assessed. The average values are $\mu_1=18,1$ pupils and $\mu_2=18,3$ pupils - there are not significant differences between the two measurements, but as a whole they come under the high results in this indicator. The low coefficient of variation $V=5,7\%$ and $V=14,2\%$ indicates that the indicator is lowly variable and the group is homogeneous according to the pupils' ability to coordinate their movements in time, space and effort.

Bigger dispersion is observed in the indicator *dash 300/600 m*. The input coefficient of variation $V=36,2\%$ and $V=35,5\%$ at the end of the study is indicative of the relative homogeneity of the group. It is known that the increasing of the specialized endurance is closely related to the improvement of the elements of the volleyball game. The model complex for the development of endurance is characterized by continuance of the performance of all the exercises. The complex demonstration of endurance is observed in the running, jumping, strength, technical exercises which are included in a model complex (Appendix 1). The alterations in this index are insignificant, $d = +0,02$.

The main purpose of the specialized physical exercises for the development of flexibility is the generation of optimal amplitude in the shoulder joints, the lower limbs joints, the genicular and ankle joints. The requirement that flexibility should be developed to the extent necessary for the performance of the volleyball elements is set in the presented model complex for flexibility development (Appendix 3). In the organizational and methodological instructions the requirements for the performance of each exercise are presented. The average values in the investigated indicator: $\mu_1=14,7$ and $\mu_2=15,5$ do not indicate significant development ($d=+0,78$). The complex could be complemented by a larger number of stretching exercises.

By the test *medicine ball* throwing the condition and the strength of the lower limbs is indicated. The specifics of the volleyball game and the involvement of the upper limbs in almost all volleyball elements outlines their good training. The collation of the results in this indicator shows an increase $d = +0,88$ m. The higher coefficient of variation at the end of the study $V=39,4\%$ shows the relative instability of the group and could be due to differences in the pupils' strength abilities in the investigated indicator.

CONCLUSION

The analysis of the results of the investigation of the specialized physical training of the pupils who study volleyball at school allows to draw the following conclusions and generalizations:

The model complexes of exercises for the development of specialized motor abilities have facilitated the successful development of the investigated indicators.

The application of the model complexes will contribute to the optimizing of the relation between the physical (motor) qualities and the successful formation of the motor habits.

REFERENCES

Бахчеванов, Д. и Желязков, Ж. (1991). *Развитие на физическите качества при волейболисти* [Development of the physical qualities of volleyball players. In Bulgarian]. София: РИКО – „СИНТЕЗ“.

Дончева, М. и Димитрова, П. (2007). *Волейбол за 9 клас. Теория и практика* [Volleyball for 9th degree. Theory and practice. In Bulgarian]. Варна: “СЛАВЕНА”.

Крумова, А., Димитрова, П., Кючуков, Б., Антонов, И., Михайлов, Д. В. Христова, В. (1985).

Тренировката на волейболиста [The training of the volleyball player. In Bulgarian]. София: Национална Спортна Академия.

Димитрова, П. (2002). *Методика на преподаването по волейбол. Ръководство за студентите от НСА* [Methodology of volleyball teaching. Guide for NSA students. In Bulgarian]. София. Национална Спортна Академия.

СПЕЦИЈАЛНАТА ФИЗИЧКА ПОДГОТОВКА - ФАКТОР ЗА РАЗВОЈ НА МОТОРНИТЕ СПОСОБНОСТИ И ОСНОВА ЗА ЕФИКАСНОСТА НА ОБУЧУВАЊЕТО ПО ОДБОЈКА ВО СРЕДНИТЕ УЧИЛИШТА

УДК:

(Прейходно соопштение)

Мария Дончева

Технички универзитет, Варна, Катедра Физичко воспитување и спорт, Варна, Бугарија

Апстракт:

Целта на истражувањето беше со примена на педагошки експеримент, да се утврди влијанието одредени програмски комплекси на вежби за развој на основните моторни способности кои соодветствуваат со карактеристиките на одбојкарската игра. Педагошкиот експеримент траеше девет месеци (една учебна година). Во него беа оdfайени ученици од 10-от клас на НГХНИ “К. Преславски” од Варна, Република Бугарија. Програмата на експериментот содржеше седум примарни комплекси на вежби за развој на основните моторни способности. Анализата на добиените резултати од примената на специјалната физичка подготовка кај учениците кои беа оdfайени со одбојка ги овозможи следните заклучоци и препораки: применетиот комплекс на вежби за ситуациона физичка подготовка се во согласност со успешниот развој на способностите кои беа проценувани со моторните тестови; користењето на примарните комплекси на вежбите, може да придонесе за оптимизирање на поврзаноста меѓу моторните способности и моторните навики.

Клучни зборови: експеримент, ученици, тестови, програми, коеф. ценител на варијабилност