INTRODUCTION
The sudden increase in sports achievements in judo the world over make it necessary for experts to constantly find new means and methods in their work with judoists (Gajić 1985, Gambetta & Winckler 2001). The effects of the work which are achieved in the training process depend on timely focus, selection and current trends (Bompa 2006, Milanović 2007). Educating and forming top judoists takes place systematically over several phases, and begins at the youngest competitive age. Each phase in the year-long development of judoists is characterized by various training content, extent and intensity, which makes scientific programming of the training process and control of the effects of training necessary (Anohin 1970, Bratić 2003, Pržulj 2007).

Motor skills take part in the realization of all types of judo techniques and enable the strong, swift, long-term, precise or coordinated performance of various motor tasks (Bratić 1998). Functional abilities of judoists are connected to the effectiveness of the oxygen transport system (aerobic capacity), the effectiveness of anaerobic energy mechanisms, which enable high-intensity sports activity when oxygen uptake is smaller than necessary (Gajić 1985, Željaskov 2004, Pržulj 2006).

The aim of our research was to determine the influence of basic preparation training on the development of the motor and functional abilities of judoists.
of judoists. The subject matter of the research was to determine whether basic preparation can lead to any adaptation processes in the body so that in the final measuring, in comparison to the initial one, statistically significant changes in the motor and functional abilities of the subjects can be noted.

METHODS

The sample of subjects consisted of 28 elementary school students, aged 14 and 15, included in the training process for future judoists, and taking part in the basic preparation training in judo clubs in East Sarajevo. Their motor skills were evaluated with the help of segmentary speed tests (hand tapping MTAP, foot tapping MTAN, foot tapping against a wall MTPZ) and explosive strength (the standing depth jump MSDM, the standing triple jump MTRS, the standing quintuple jump MPTS). The tests used to evaluate their motor skills were taken from the research of Kurelić, Momirović, Stojanović, Šurm, Radijević & Viskić-Štalec, 1975. Their functional abilities were evaluated with the following tests: heart rate after load (FPPOP), maximum anaerobic power (FMARG) and vital lung capacity (FVKPL). The functional tests were taken from the model of Heimer, Mišogoj & Bosnar, 1989. To process the obtained results, the T-test and the canonical discriminant analysis were used.

The experimental basic preparation model

The basic preparation of young judoists aimed at developing their motor and functional abilities lasted for a period of four weeks, with three hours of training per week. The basic preparation program realization included various activities focused on a particular goal: the harmonious and multifaceted processing of the locomotor apparatus and all its segments, the development of primary strength, flexibility, explosive strength, capacities for coordination and speed characteristics (the speed of motor reactions, movement speed, basic locomotor speed during various kinds of motion). As part of the methodology of the anaerobic training of judoists, three basic tasks were being carried out: the increase in functional abilities of the phosphocreatine mechanism, the improvement of energy mechanisms and the increase in the efficiency of nervous structures under the special conditions of oxygen debt.

RESULTS

The results of the T-test of the motor skills between the initial and final measuring of judoists are shown in Table 1. By analyzing the obtained results for the coefficients of the T-value and their significance (P), it can be concluded that there is a statistically significant difference in all of the motor tests at the final as compared to the initial measuring.

By using a canonical discriminant analysis (Table 2), a significant discriminant function of mid-intensity was obtained (CR=69.4%), which indicates the correlation of the group of data on the basis of which the discriminant analysis of the obtained data was carried out. The results of the discriminant strength of the motor variables determined by means of the Wilks-Lambda were high.

Table 1. The significance of the differences between the motor tests of the subjects at the initial and final measuring

<table>
<thead>
<tr>
<th>Motor test</th>
<th>Mean IN</th>
<th>Mean F1</th>
<th>T-Value</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSDM</td>
<td>193.5</td>
<td>210.6</td>
<td>5.28</td>
<td>28</td>
<td>.001*</td>
</tr>
<tr>
<td>MTRS</td>
<td>421.2</td>
<td>481.0</td>
<td>5.04</td>
<td>28</td>
<td>.013*</td>
</tr>
<tr>
<td>MPTS</td>
<td>642.5</td>
<td>695.8</td>
<td>5.17</td>
<td>28</td>
<td>.011*</td>
</tr>
<tr>
<td>MTAN</td>
<td>27.1</td>
<td>32.7</td>
<td>-4.26</td>
<td>28</td>
<td>.036*</td>
</tr>
<tr>
<td>MTAP</td>
<td>35.1</td>
<td>41.2</td>
<td>-4.14</td>
<td>28</td>
<td>.040*</td>
</tr>
<tr>
<td>MTAZ</td>
<td>25.2</td>
<td>31.4</td>
<td>-3.87</td>
<td>28</td>
<td>.045*</td>
</tr>
</tbody>
</table>

Table 2. The significance of the isolated discriminant function of the subjects’ motor skills

<table>
<thead>
<tr>
<th>Eugenvalue</th>
<th>Canonical R</th>
<th>Wilks’ Lambda</th>
<th>Chi-Sqr</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>.337</td>
<td>.694</td>
<td>.653</td>
<td>48.022</td>
<td>6</td>
<td>.002*</td>
</tr>
</tbody>
</table>

Table 3. The factor structure of the isolated discriminant function

<table>
<thead>
<tr>
<th>Variables</th>
<th>Root 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSDM</td>
<td>-.529</td>
</tr>
<tr>
<td>MTRS</td>
<td>-.502</td>
</tr>
<tr>
<td>MPTS</td>
<td>-.470</td>
</tr>
<tr>
<td>MTAN</td>
<td>-.433</td>
</tr>
<tr>
<td>MTAP</td>
<td>.424</td>
</tr>
<tr>
<td>MTAZ</td>
<td>.358</td>
</tr>
</tbody>
</table>

Table 4. Measuring centroids of the subjects

<table>
<thead>
<tr>
<th>Measuring</th>
<th>Root 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>1.460</td>
</tr>
<tr>
<td>Final</td>
<td>-1.460</td>
</tr>
</tbody>
</table>
significance of the displayed measuring centroids, tested through the significance of the discriminant function, indicates that their distance (discrimination) is significant.

The results of the discriminant analysis of the motor skills in the final measuring of the subjects, compared to the initial measuring, indicate that under the influence of the basic preparation training, significant changes in the motor skills of the subjects had taken place. The greatest contribution to this difference was made by the tests of explosive strength and to a lesser extent, repetitive strength.

Table 5 contains the results of the T-test of the functional abilities between the initial and final measuring of the subjects in the control group. The analysis of the T-value coefficients and their significance (P) indicates that a statistically significant difference can be found in all of the tests of functional abilities, at the final, in comparison to the initial state.

The canonical discriminant analysis indicates (Table 6) that a significant discriminant function of mid-intensity (CR=.680%) was obtained, which indicates the correlation between the group of data on the basis of which the discriminant analysis of the obtained results was carried out. The results of the discriminant strength of the functional variables determined by Wilks’ Lambda are high (.708), which indicates that the differences between the initial and final measuring in the space of functional abilities of the subjects was significant (P=.011), as the value of the Chi square test is high (Chi-Sqr = 40.631).

Table 5 shows the structure of the discriminant function regarding the influence of the variables of functional abilities in forming significant discriminant functions. The results indicate that the greatest contribution to the discriminant function is made by anaerobic strength (FMARG -.586) and heart rate frequency after load (FPUPO .562), and to a lesser extent, vital lung capacity (FVKPL .337).

Table 6 shows the discriminant function of the centroids on the basis of all of the functional tests and it has a value of -.460 and .460. The significance of the presented measuring centroids which were tested through the significance of the discriminant function indicates that their distance (discrimination) is significant.
DISCUSSION

Motor skills have a direct effect on motor reactions, that is, the motor behavior of humans. One part of the motor skills is under the significant influence of the factor of genetics, while another is under the influence of various exogenic factors, especially sports activities. For the purpose of increasing the level of complex motor tasks, such as explosive strength and segmentary speed, it has been determined (Najšteter 1997, Duraković 2008, Pržulj 2007) that the transformation processes are related to the energy component in a statistically significant manner. Bearing this in mind, in this research the application of physical exercise in the work process was under the control of not only the intensity or the extent of the load, but also the process of energy renewal, that is, the rest phase, during which most of the compensation of physiological changes caused by the exercise process take place (Anohin 1970, Milanović 2007).

During the basic preparation, much care was taken that rest as a necessary phase in the process of energy renewal, that is, the process of reestablishing the balance which had been disrupted by the increased energy consumption, followed supraliminal load (the intensity of the exercise borders on the maximum abilities of the body). Special attention was paid to the fact that any further exercise involving supraliminal load followed at a precise phase of the energy renewal process. We can assume that such an approach in the process of basic preparation realization made a special contribution to the statistically significant increase in the studies anthropological features at the final, in comparison to the initial state of the subjects.

CONCLUSION

The research was carried out with the aim of determining the influence of the basic preparation model of training on the development of the motor and functional abilities of judoists. The sample consisted of 28 subjects who took part in the training process in the judo clubs in East Sarajevo. The measuring instruments for motor skills consisted of three tests used to define explosive strength and segmentary speed. The functional abilities were determined with the help of tests of aerobic and anaerobic muscle potential. By using a canonical discriminant analysis, we determined that at the end of the experimental period, a statistically significant increase in explosive strength, segmentary speed and functional abilities had taken place among the judoists.

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ВЛИЈАНИЕТО НА БАЗИЧНАТА ПОДГОТОВКА ВРЗ РАЗВОЈОТ НА МОТОРНИТЕ И ФУНКЦИОНАЛНИТЕ СПОСОБНОСТИ НА ЉУДИСТИТЕ

УДК: 796.853.23.015.3
(Оригинален научен труд)

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Антрракт
Целата на истражувањето беше да се утврди влијанието на одреден модел за развојот на моторните и функционалните способности кај људиствите. Примерокой на испитаници го сочинуваа 28 ученици од основниот училишта, на возраст од 14 и 15 години. Тие беа насочени со тренажен процес на базични йодгойовки за инти људистви во Људо-клубовите на Источно Сарајево. Моторните способности беа проценети со следниве шест тестови за проценување на: сегментарна брзина – тапинг со рака (MTAP), тапинг со нога (MTAN), тапинг со ношете на ѝада (MTAPZ); експлозивна сила – скок од местото (МСДМ), трискок од местото (МТРС), и петесок од местото (МПТС). Функционалните способности беа проценети со тестови: фреквенција на пульсот по оптомонавање, (ФППОП), максимална анаеробна моц (ФМАРГ), вијален к-ицици на белите дробови (ФВКПЛ). Податоците се обработени со дискриминативна анализа. Резултатите на истражувањето покажаа дека шестнаците вежби на моделот за базични йодгойовки, се инерциони значајно влијале врз зголемувањето на моторните и функционалните способности.

Ключни зборови: ученици, тренажен процес, експерименти, модел, дискриминативна анализа