THE EFFECTS OF INDIVIDUALLY DESIGNED PROGRAMS OF PHYSICAL TRAINING BASED ON US ARMY STANDARDS ON MOTOR ABILITIES OF SLOVENE ARMED FORCES PERSONNEL

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Adequate physical readiness is a significant aspect of universal armed forces readiness and an integral part of military support. The aim of this research was to ascertain the effect of a training program, based on individually adapted intensity levels, on motor abilities of the Slovene armed forces (SV) personnel. The sample of subjects included 34 members of SV (16 in the experimental group – ES, and 18 in the control group – KS), aged between 35 and 40. Results have been processed by the SPSS 8.0 for Windows program. Data processing was carried out in several phases. First, the basic statistical characteristics and the distribution of individual variables have been determined, the measures of central tendency and the measures of dispersion have been calculated and a method for the analysis of variance with 5% risk has been used. The results have shown that a characteristic enhancement of certain motor abilities of the sample studied can be improved by means of training process economisation and individually adapted training intensity levels. Statistically significant differences between the experimental and control groups were found in measurements of body fat (KG), push-ups (SK), curl-ups (DT), a 3200 meter run (T3200M) and the morning heart beat frequency (FSUs). Although the research sample was small, these studies, at least in theory support the need for future research in these areas, as our evidence strongly suggests the effectiveness of individually designed training protocols on the physical readiness of Slovenian armed personnel.

Keywords: Motor readiness, physical training plan, NATO.

INTRODUCTION

The contemporary way of life has many negative consequences and is marking the way of life of the Slovene people as well, where the Slovene armed forces (SV) is no exception. Despite the fact that physical training in SV is well rounded legally, formally and theoretically, SV is facing the negative influences of our contemporary way of life, too (Tkavc, 1999). The rate of motor and locomotor injuries and cardiovascular disorders is rapidly increasing among SV personnel; due to insufficient exercising, many are facing an increased body weight (Karpljuk, D., Žitko, Rožman, Suhadolnik, & Karpljuk, K., 2001) causing health disorders, etc. These factors significantly affect the combat readiness of SV soldiers and SV as a whole. The motor efficiency of an individual soldier and of a unit – a principle element of combat readiness – is more and more important in readiness programs of every contemporary army (Picarielo, 2000; Jaenen, 2000). As the way of life is changing significantly, the abilities of an individual as well as the abilities of an entire society are changing along with it. Sport plays a more and more important role in developing and maintaining the motor efficiency of a contemporary individual (Karpljuk, 1999). Sport within the Slovene armed forces is and will remain an instrument for the achievement and maintenaince of the adequate motor efficiency of all personnel, as well as one of the principle requirements for the appropriate combat readiness of each individual (Tkavc, 1999). In the Slovene armed forces' fundamental foundations, sport is defined to include physical training, physical education, sport for all profiles, assessment of motor abilities, sports education, sports competitions within SV, international sports competitions, participating in competitions of sport associations and clubs, sport readiness programs of individual soldiers and units, commanders and teams, analytic and research activities, and public relations activities pertaining to informing the public about sport and athletes in the Slovene armed forces (Tkavc, 1999). Sport programs must meet the requirements of a lifestyle and above all suppress the negative consequences the army way of life brings (Jaenen, 2000). Full time SV personnel undergo regular physical training, which represents fundamental physical (motor) readiness for an individual, to most efficiently meet combat requirements or military duties (Tkavc, 1999). Military duties are often carried out under extreme physical and mental conditions, requiring

excellent motor abilities. Individuals are often facing problems related to their own health state (overweight and accompanying health factors, stressful situations on a daily basis, motor apparatus and cardiovascular disorders, etc.). All of the previously mentioned factors have negative consequences and affect the daily military duties of commanders, military equipment duty personnel, officers managing contemporary weapons, etc. (Karpljuk et al., 2001).

Adequate physical readiness is a significant aspect of universal armed forces readiness and an integral part of military support (Jaenen, 2000). Despite an increase in number and enhanced military equipment, mechanization, means of transport, etc., a number of combat operations still depend on physically well prepared soldiers (Jaenen, 2000; Karpljuk et al., 2001). For example, Canadian armed forces personnel (Jaenen, 2000) must be physically prepared to successfully carry out military operations in a geographically and climatologically diverse landscape. All profiles, from officers to soldiers undergo the process of a highly well rounded physical readiness program. Their physical readiness is evaluated through various assessments based on the Human Rights Act (Jaenen, 2000), which the personnel is informed upon joining the Canadian armed forces.

US army personnel start their physical training program the first day upon entering the forces, and the program lasts until the end of an individual's military career. The sporty way of life in the US army is not an exception but rather a general activity of all the employees. The assessment of physical efficiency is based on the Annual physical training test (also used by some NATO members), and is comprised of push-ups, curl-ups and a 3200 meter (2 mile) run (Picarielo, 2000; Karpljuk et al., 2001). Picarielo (2000) stresses that the physical efficiency readiness is based on endurance, strength, and agility as well as on developing mental abilities, cohesiveness within a group and factors related to combat situations.

In the Slovene armed forces, physical readiness assessment based on American standards has been practiced since 1996. The assessment, even though it seems like a simple evaluation comprised of three tests (push-ups, curl-ups and a 3200 meter run), may be quite a strenuous task. As an encouraging thought to achieving a good assessment result, Tkavc (1999) says that individuals who regularly take care of their health by exercising, and who are occasionally in sports, will not have great difficulties with the assessment or will achieve relatively good results.

The doctrine of the US land forces has been presented in detail by Grizold (Grizold & Ferfila, 2000), stating that the changes applied to the doctrine of the US land forces enable an efficient employment of US armed forces wherever in the world it is needed in a rather short period of time, that requires the support of excellent logistics, which in the US army is the case, and physically well prepared soldiers, which, as stated by Picarielo (2000), is not a disturbing factor.

Liu (2000) exposed the importance of sport in the armed forces. He has analyzed the differences of the two notions, "military sport" and "sport in the military". Military sport is defined as a specific type of sport, where the training process is based upon combat readiness representing a baseground of the Chinese national strategy of defense system, and upon readiness for war or war-like conditions. Sport activities include different types of shooting with combat weapons, parachuting, military pentathlon, etc., all activities directly related to assessment of the soldiers' combat capacities. On the other hand, sport in the military primarily includes the most common types of sport like football, athletics, basketball, handball, cycling, etc., that is the types of sport characteristic for ordinary, civilian society. Liu (2000) emphasized that these sport activities in the context of armed forces do have certain specifics; at the same time the options are open as to an individual sport soldiers can have in addition to the military sport activities.

Tkavc (1999) defines sport in SV as an entity, and thus takes up the same point of view as Zechner. Based on definitions by Liu (2000) – military sport and sport in the military and according to the purpose of sport in SV, her definitions could be related as follows. Military sport is a regular sport activity and assessment of motor abilities, while sport in the military represents any other sport activities ranging from sport for all to sports competitions. Despite different points of view and definitions it is obvious that there is a universal notion of sport and that the principle goal of sport in the military is adequate physical readiness of soldiers to successfully attend to their regular and combat duties (Tkavc, 1999).

According to the climatic conditions in Africa (especially in SAR), Mashiane (2000) pointed out key factors that must be considered (heat, moisture, dehydration and hydration, thermoregulation, clothing, footwear,...) in order for soldiers to successfully perform their duties. In some countries like Zimbabwe (Mudambo, 2000), they are facing additional problems of physical training and its health influences on soldiers with health disorders, for example AIDS. They have studied the positive and the negative influences of physical training on health, performance on duty and allocation of duties that HIV positive soldiers could still successfully manage. According to specific conditions in Africa, Mudambo (1996) studied the effects of the negative energetic ratio of military personnel in "survival" training in hot weather conditions. The author stresses that in order to prepare soldiers for possible war conditions, the training process should include as many factors as pos-

sible (climatic, health related...) which soldiers would face in war conditions.

Bonev (2000) has introduced a systematic definition of the above mentioned physical training factors – a common term for "physical education" in the military. The author provided a basic model of sport training that should comprise the following elements: sport training as a part of regular armed forces personnel duties – 2 to 3 hours weekly; morning exercises – 30 minutes; elements of sport for all profiles (90 minutes) to be carried out off-duty; physical training aimed at enhancing combat readiness. Particular elements of training, explicitly emphasized, are athletics, marching various distances, movements with acceleration and changes of direction, sport gymnastics (floor, gymnastics, permitted apparatus adjustments), running, swimming, alpine and cross-country skiing, rowing, combat sports, etc.

We are of the opinion that taking up appropriate approaches and having adequate professional knowledge in the field of sports and related fields, can positively influence and enhance motor readiness of SV personnel, and decrease a number of negative consequences of a contemporary way of life. According to contemporary course of events and the demands of the leading world armed forces, SV sport should go beyond the character of being a promotional, occasional and motivational factor. Sport activities should actively be integrated into the working and living sphere of every (healthy) individual of the SV armed forces. A handful of athletes employed at SV, who participate at national and beyond competitions are by no means indicators of the actual state, being regular army, commissioned officers, non-commissioned officers, civil SV or MORS personnel, or the contractual reserve army, which should in the future change their current foundations. It is necessary to emphasize that any kind of training will have a more significant effect, if it is adapted to an individual (Bonev, 2000), his/her motor abilities, motivation and expectations.

The aim of this research is to ascertain the effects of a three-month long, individually adapted training program carried out three times a week on the development of some functional, motor and morphological dimensions with SV regular and reserve officers.

GOALS

The goal of this research was to find out the differences in results of selected functional, motor and morphological variables, tested with SV regular and reserve officers – differences between the initial and final measurements of the experimental and the control group.

METHODS

The training program of the experimental group (ES) was adapted to individuals. The program was based on running endurance, agility, coordination, speed and strength. The control group (KS) performed regular sport activities, in the same extent as before the research (fitness, running, cycling, and games). The initial assessment was carried out prior to experimental program initiation, based on which, the subjects were grouped into two equivalent groups according to the 3200 meter run results. All measurements were done at the Ljubljana athletic stadium and were carried out according to the instructions of the US armed forces standards (Karpljuk et al., 2001). Each group was given instructions on the training program for the following three months. The final assessment was carried out in the same manner as the initial one.

Sample of subjects

The research is based on studying 34 members of the SV, 16 in the experimental and 18 in the control group.

Sample of variables

Three sets of variables were defined according to the subject and the goals of this study, and according to the hypotheses set forth.

Functional variables

FSUm	heart beat frequency, morning, resting	beats/min

Motor variables

SK	push-ups (2 min)	number of repetitions
DT	curl-ups (2 min)	number of repetitions
T3200M	3200 meter run	seconds

Morphologic variables

ATV	height	mm*
ATM	weight	kg
AKGN	body fat	mm
AOS	femur volume	cm

* Note that body height was used solely for the calculation of body mass index (ITM) and was not taken into account as a variable during the statistical workout, as we were not expecting any changes in body height in response to the prescribed training program. One should consider height as a constant and regular anthropometric parameter. As the prescribed training program was described in order to change functional and motor abilities of individuals involved, height would not be an appropriate variable, as it does not fit the desired model of the study.

DATA PROCESSING METHODS

Results have been processed by the SPSS 8.0 for Windows program. Data processing was carried out in several phases. First, the basic statistical characteristics and the distribution of individual variables have been determined, the measures of central tendency and the measures of dispersion have been calculated. The analysis of variance with a 5% risk has been used to calculate differences between the experimental and the control group (initial and final measurements).

RESULTS

Three sets of variables were defined according to the subject and the goals of this study: morphological (body height – ATV, body fat at upper arm – AKGN, femur volume – AOS), functional (heart beat frequency, morning at rest – FSUm) and motor (push-ups, 2 min – SK, curl-ups, 2 min – DT, 3200 meter run – T3200M). TABLE 1 shows the results of the above mentioned variables, indicating the ES and KS differences between initial and final measurements of all tests. Statistically significant differences between ES and KS were found in measurements of body fat (KG), push-ups (SK), curl-ups (DT), a 3200 meter run (T3200M) and the morning heart beat frequency (FSUs).

TABLE 1
Differences between the initial (1) and final (2) measurements of ES and KS with tests: ATM1–ATM2, AKG1–AKG2, AOS1–AOS2, SK1–SK2, DT1–DT2, T320M1–T3200M2 in FSUm1–FSUm2

Var	Group	Number	Min	Max	Mean	SD	SE	P
ATM1	ES	*16*	70.00	93.00	78.25	7.55	2.18	0.776
	KS	*18*	69.00	88.00	79.00	5.39	1.49	
ATM2	ES	*16*	68.00	89.00	75.17	6.91	1.99	0.187
	KS	*18*	69.00	87.00	78.38	4.81	1.33	
AKG1	ES	*16*	10.60	16.80	13.68	2.28	0.66	0.904
	KS	*18*	9.80	15.40	13.58	1.73	0.48	
AKG2	ES	*16*	8.80	13.40	11.42	1.49	0.43	**0.010**
	KS	*18*	10.00	15.20	13.17	1.64	0.45	
AOS1	ES	*16*	49.00	65.00	55.83	5.27	1.52	0.289
	KS	*18*	50.00	65.00	57.77	3.54	0.98	
AOS2	ES	*16*	48.00	65.00	55.17	5.06	1.46	0.150
	KS	*18*	49.00	66.00	57.77	3.61	1.00	
SK1	ES	*16*	31.00	77.00	57.58	12.72	3.67	0.451
	KS	*18*	37.00	80.00	53.69	12.63	3.50	
SK2	ES	*16*	49.00	88.00	67.17	12.52	3.61	**0.032**
	KS	*18*	44.00	81.00	56.08	11.71	3.25	
DT1	ES	*16*	29.00	92.00	65.92	20.59	5.94	0.225
	KS	*18*	36.00	90.00	56.77	16.00	4.44	
DT2	ES	*16*	55.00	94.00	82.17	12.16	3.51	**0.001**
	KS	*18*	41.00	98.00	59.77	16.34	4.53	
T3200M1	ES	*16*	726.00	1033.00	878.42	97.48	28.14	0.816
	KS	*18*	735.00	1024.00	869.46	92.87	25.76	
T3200M2	ES	*16*	547.00	912.00	774.00	104.79	30.25	**0.042**
	KS	*18*	724.00	984.00	857.15	88.03	24.41	
FSUm1	ES	*16*	48.00	62.00	53.75	4.20	1.21	0.870
	KS	*18*	45.00	63.00	53.46	4.47	1.24	
FSUm2	ES	*16*	46.00	61.00	50.42	2.61	0.75	**0.016**
	KS	*18*	45.00	63.00	54.23	4.39	1.22	

Fig. 1
Physical training program of experimental group

	Week 1
Day	Program
Friday	***ASSESSMENT***
Monday	15 min light run (intensity 60% ± 4 beats/min) Gymnastic exercises, strength exercises run-out – 5 to 8 minutes.
Wednesday	15 min light run (intensity 60% ± 4 beats/min) Gymnastic exercises, 8 × 60 meters intensification, education on running, run-out 5 minutes.
Friday	20 min light run (intensity 60% ± 4 beats/min) Gymnastic exercises, education on running, strength exercises, run-out 5 minutes.

	Week 2
Day	Program
Monday	Fartlek: light run 6 to 10 minutes, could be combined with walking; gymnastic exercises; steady warm – up run 5 to 8 minutes; walking 2 minutes; intensifications (3 to 5 × 60 meters); interval runs – 6 × 60 to 80 meters, rest – walking 2 minutes; sprint 3 × 30 meters, in between 2 minutes light run; walking 2 minutes; fast run 2 minutes; walking 3 minutes; light run 10 minutes.
Wednesday	15 min light run Gymnastic exercises; 4 × 40 meters intensifications, 400 meters walking at max pace, run-out 5 to 8 minutes. *Note: Calculation 120% of achieved result; max. =* ***e.g. 90 seconds;*** *120% = 108 seconds.*
Friday	25 to 30 min light run switching pace – optional (intensity of running ranges from 60 to 90% ± 4 beats/min) Gymnastic exercises, 6 × 80 meters intensification, strength exercises, light stretching.

	Week 3
Day	Program
Monday	15 min light run (intensity of running 60% ± 4 beats/min) Gymnastic exercises, 4 × 50 meters intensification, 4–6 × 400 meters at pace 120% – 108 seconds, rest 3 minutes, run-out 10 minutes, light stretching.
Wednesday	5 min light run Gymnastic exercises, 20 min run (intensity of running 80% ± 4 beats/min), education on running, strength exercises, 5 × 40 meters intensification.
Friday	15 minutes light run (intensity of running 60% ± 4 beats/min) Gymnastic exercises, 4 × 80 meters intensification, 1000 meters maximum pace, run-out 5 to 8 minutes, *Note: Calculation 110% of achieved result, max. = e.g. 300 seconds (5 minutes), 110% = 330 seconds (5 min 30 sec).*

	Week 4
Day	Program
Monday	20 min light run (intensity of running 60% ± 4 beats/min) Gymnastic exercises, strength exercises, 10 × 100 meters intensification, education on running, run-out 10 minutes.
Wednesday	15 minutes light run (intensity of running 60% ± 4 beats/min) Gymnastic exercises, 5 minutes lively run, 5 minutes walking (intensity of running 90% ± 4 beats/min), 3 minutes lively run, 3 minutes walking (intensity of running 90% ± 4 beats/min), 1 minute high speed run, 3 minutes walking (intensity of running 90% ± 4 beats/min), 3 minutes lively run, 3 minute walking (intensity of running 90% ± 4 beats/min), 2 minutes lively – fast run, 3 minutes walking (intensity of running 90% ± 4 beats/min), run-out 5 minutes.
Friday	5 minutes light run Gymnastic exercises, 30 to 40 minutes light run, strength exercises, light stretching.

	Week 5
Day	Program
Monday	Fartlek: light run 10 minutes; gymnastic exercises; steady warm-up run – 3 minutes; walking – 2 minutes; intensifications (3 to 5 × 50 meters); faster run – 1, 2 and 3 minutes, in between rest periods – walking 2 minutes; 1 minute high speed run (maximum pace); walking 2 minutes; 1 minute high speed run (maximum pace); walking 2 minutes; 2 intensifications at distances from 30 to 40 meters; light run 10 minutes.
Wednesday	15 minutes light run Gymnastic exercises, 4 × 90 seconds fast run, in between 3 minutes walking, run-out 10 to 15 minutes.
Friday	5 minutes light run Gymnastic exercises, 35 to 45 minutes light run (intensity of running 75% ± 4 beats/min), 4 × 60 meters intensification.

	Week 6
Day	Program
Monday	15 minutes light run (intensity of running 60% ± 4 beats/min) Gymnastic exercises, 3 × 60 meters intensifications, 1000 meters for 5 minutes, rest 6 minutes; 600 meters for 2 minutes and 50 sec., rest 6 minutes; 400 meters for 100 seconds, rest 6 minutes; 300 meters at maximum pace, rest 6 minutes; 600 meters at maximum pace, rest 6 minutes; run-out 5 to 8 minutes.
Wednesday	10 minutes light run (intensity of running 60% ± 4 beats/min) Gymnastic exercises; 20 minutes light run (intensity of running 70% ± 4 beats/min); strength exercises; light stretching.
Friday	10 minutes light run (intensity of running 60% ± 4 beats/min) Gymnastic exercises; 10 × 100 meters intensifications; run-out 10 minutes.

	Week 7
Day	Program
Monday	5 minutes light run gymnastic exercises; 30 to 45 minutes light run (intensity of running 75% ± 4 beats/min), education on running; 4 × 60 meters intensifications.
Wednesday	10 minutes light run Gymnastic exercises; 4 × 40 meters intensifications; 10 × 400 meters for 100 seconds, rest 3 minutes; run-out 5 to 8 minutes.
Friday	25 to 30 minutes light run (intensity of running 65% ± 4 beats/min) Gymnastic exercises; strength exercises; light stretching.

	Week 8
Day	Program
Monday	10 minutes light run gymnastic exercises; 4 × 80 meters intensifications; 2000 meters at maximum pace, rest 5 minutes (intensity of running 100%); 1200 meters at maximum pace, rest 5 minutes (intensity of running 100%); run-out 5 minutes.
Wednesday	20 minutes light run (intensity of running 60% ± 4 beats/min) Gymnastic exercises; strength exercises; light stretching.
Friday	10 minutes light run Gymnastic exercises; 6 × 80 meters intensifications; 10 × 200 meters for 45 seconds, rest 2 minutes; run-out 10 minutes.
	Week 9
Day	Program
Monday	***ASSESMENT***

CONCLUSION

Differences between ES and KS in body fat measurements were 2 mm (TABLE 1) and were statistically characteristic (P = 0.010). There were differences in body weight (ATM) – of approximately 3 kg, however, these differences were not statistically significant. The subjects have maintained a relatively active way of life even prior to this study. This experiment was by no means aimed at changing their existing way of living, including their nutrition habits. Prior to the study, the subjects were given the instructions that their nutrition should remain the same. There were differences in KG at final measurements, suggesting that the kind of activities they were involved in, could have had an indirect, positive effect on the individual's health state. In the armed forces, increased body weight (overweight) and the accompanying circumstances are no exception.

There were no statistically characteristic differences between the groups with the AOS (femur volume) variable. A more detailed inspection of the results presented in TABLE 1 however shows that the femur volume in the ES has slightly decreased. Similar results, where the AOS has decreased, can be observed in the study (Bevc, 2002), a preliminary study to this one. It is assumed that exercising has indirectly influenced a decrease in body weight, body fat and ITM (body mass index). The ITM values for the ES group were 23.63 – final measurements (initial measurements 24.61; p = .000), while for the KS the ITM values were 24.03 – final measurements (initial measurements 24.21; p = 0.221).These results indicate that in the ES group, statistically significant differences in the ITM variable occurred at the end of the research.

When training for the assessment of motor abilities, it is encouraging to examine the results of ES enhancements and the statistically significant differences of all three motor variables (DT, SK, T3200M) as presented in TABLE 1. Even before the program, some preliminary studies have been carried out (Karpljuk et al., 2001; Karpljuk, Videmšek, Cecic-Erpic, Žitko, Štihec, & Kondrič, 2001; Bevc, 2002), as well as studies confirming that economisation of the training process and individually adapted intensity of training characteristically help to enhance certain motor abilities (Karpljuk, 1999). It is assumed that economisation of the training process is required in order to achieve a general level of SV personnel's motor readiness. At the same time, it is a prerequisite for fundamental physical fitness abilities and the development of those motor abilities, required to fulfill the work and duties of all profiles in the Slovene armed forces. The latter will inevitably become an important factor these days, when Slovenia has been invited to become a NATO member.

The final aspect of this study, with which we wanted to confirm the physical training efficiency of the SV personnel, was monitoring the morning heart beat frequency (Ušaj, 1996). While examining the early effects of exercising (Karpljuk, 1999), the FSUm represented a variable whose positive results indicated that the ES training program was appropriate and that the heart beat frequency while resting decreased within the range predicted by many researchers (Willmore & Costill, 1994). Also in the course of the research, no increase of the morning heart beat frequency in the ES group was detected. Based on this, we have concluded that the training process does not cause any forms of fatigue – the indicator of which could be an increased heart beat frequency while resting (Willmore & Costill, 1994).

This study is one of the rare ones in the Slovene armed forces which would systematically and professionally examine the aspects of training for the assessment of motor abilities, following US military standards. Up until now, training for the assessment has in many cases been a matter of the last month or even the last week before the assessment. This approach is inappropriate for many reasons, here mentioning primarily the one closely related to the health state of the SV personnel, which is further related to their physical readiness. The campaign excursus mentioned earlier, treating an assessment as an "adventure" into the unknown may lead tragic consequences. Physical training of the SV personnel, including the reserve (now a professional reserve), should be continued all year round or throughout one military career, which in the leading NATO member countries represents a clearly understood integrated part of their duties. This point of view in the SV has not been put to practice yet (except for some professional athletes, recreational athletes and some conscious individuals), despite numerous attempts and the legal and formal ground.

It is assumed that the results of this research will contribute to theoretical findings in the field of endurance training in the SV, to examining other armed forces, particularly of the NATO member countries. We hope that these findings will be used as a baseground for similar studies that may follow – and, as it is most common in other countries, to a closer interaction and complementation of military, civil scientific and professional spheres.

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ÚČINKY INDIVIDUÁLNĚ NAVRŽENÝCH PROGRAMŮ TĚLESNÉ PŘÍPRAVY ZALOŽENÝCH NA NORMÁCH AMERICKÉ ARMÁDY NA MOTORICKÉ SCHOPNOSTI ZAMĚSTNANCŮ SLOVINSKÝCH OZBROJENÝCH SIL

(Souhrn anglického textu)

Přiměřená fyzická zdatnost je významným aspektem obecné připravenosti ozbrojených sil a nedílnou součástí armádní podpory. Cílem tohoto průzkumu bylo zjistit účinky výcvikového programu, založeného na individuálně přizpůsobené míře intenzity, na motorické schopnosti zaměstnanců slovinských ozbrojených sil (SV). Vzorek zahrnoval 34 členů SV (16 zařazených do experimentální skupiny – ES a 18 do kontrolní skupiny – KS) ve věku od 35 do 40 let. Výsledky byly zpracovány pomocí programu SPSS 8.0 pro Windows. Zpracování výsledků bylo prováděno v několika etapách. Nejprve byly stanoveny základní statistické charakteristiky a distribuce individuálních proměnných, byla vypočtena míra střední tendence a stupeň disperze, byla použita metoda pro analýzu s rizikem odchylky 5 %. Výsledky prokázaly, že charakteristického zvýšení úrovně určitých motorických schopností sledovaného souboru lze dosáhnout pomocí ekonomizace výcvikového postupu a individuálně přizpůsobené intenzity výcviku. Statisticky významné rozdíly mezi experimentální a kontrolní skupinou byly zjištěny při měření tělesného tuku (KG), kliků (SK), hrudních předklonů v lehu pokrčmo, běhu na 3200 metrů (T3200M) a klidové srdeční frekvence (FSUs). Přestože byl zkoumaný vzorek malý, tyto studie alespoň teoreticky potvrzují potřebu dalšího výzkumu v této oblasti, protože naše důkazy výrazně naznačují účinnost individuálně navržených výcvikových protokolů na tělesnou připravenost zaměstnanců slovinských ozbrojených sil.

Klíčová slova: motorická připravenost, plán tělesného výcviku, NATO.

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