49 - COMPARISON OF TWO MODELS PERIODIZATION TRAINING IN FITNESS FOR MILITARY POLICE

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INTRODUCTION

One of the growing concerns of the large contingent and human resources as military police institutions is the health of its effective and the good work done to society. Soldiers and armies around the world strive to develop effective ways to increase the yield of its components without causing casualties by injury and development of bone and musculoskeletal inflammatory syndromes (AVILA, 2013).

To achieve these goals it is necessary to pay attention to the specific physical demands of the work of operational military police, sedentary time and time to maximum effort and general stress (FRAGA, 2006). Develop subsidies to optimize your physical performance during the performance of their duties as well as their training, is a constant search for professionals in this sector (Mantovani et al 2013).

The Military Police of São Paulo (PMESP) through the Physical Fitness Test (TAF) keeps track of the physical fitness of all its members to assess whether they are able to operate in everyday work situation, also for police who want to internships and courses and for applications to join the institution. For every occasion there are different types of TAF in accordance with the requirements of the activity for which it is being evaluated (PMESP, 2002).

During the formation of the military police, the practice of physical conditioning consists of classes varied workload which aims to prepare the police for operational service, subsidize their individual training after graduation and provide conditions for approval in TAF, all of these tasks make vital scientific knowledge about physical training to enhance the expected results and reduce the possibility of injury (BARBANTI et al, 2004).

In his study Mantovani et.al, 2013, concluded from anthropometric and functional variables, compared to the performance in the TAF, which would be vital to maintaining the health and fitness of students of the Training Officer (CFO) of PMESP, periodization training, held to subsidize the instructions of fitness, the latter based on the principle of sports training and aiming the principle of biological individuality and maintaining the health of individuals.

The periodization of physical training is to systematize, within the time available to practice training, which the load, intensity, volume and method of exercise for maximum efficiency during the competition, race or action (Dantas, 2003 , TUBINO; Moreira, 2003; DANTAS; Godoy SPOSITO-Araujo, DE OLIVEIRA, 2011).

Considering the need of scientific and systematic training timeline, there is however, the fact that the issue of choosing which model would be best suited to each type of physical demand is a challenge for teachers and trainers (RAMALHO, Martins, 2003).

In the study by Perez, 2003, the author concludes that a group of firefighters, periodization of training with aerobic stimuli distributed throughout the week, were more suitable for individuals who were sedentary. Showing the importance of this work of periodization for military police and firefighters.

Das et.al, 2011, in effort to cite and evaluate models of periodization, statistically ranked model Matveev, as "very good" and how "good" the model in blocks Verkhoshansky.

This classic periodization model developed in the 50s by Dr. Leev Pavlovtchi Matveev, boosted Olympic achievements of the USSR, and has been used and defended by authors today. Most of which are precursors of periodization derived from the former Soviet Union (Silva, 2000). It is however criticized by coaches and authors who claim that presents lower supply of peak physical performance per year, which would be a necessary characteristic for the modern contemporary athletes (DE OLIVEIRA et al, 2005).

On the other hand also the Russian Yuri Dr. Vitale Verkhoshaski leading critic of the classical model of Matveev developed a program of physical training periodization divided into three blocks, with different concentrations of cargo, which would allow the athlete reached through an organized control and programmed, a larger variety of surge physical optimization (Souza, 2003). This higher occurrence of stages of optimization for competition would enable the athlete to participate in smaller competitions in order to train for the most targeted competitions in their projections.

Given the need to explore the applicability of the periodization of physical training for military and police about what kind of periodization would best serve the demand of this class, this study aims to compare the application of periodization with similar characteristics proposed by Matveev and Verkoshansky.

METHODOLOGY

To participate in the study randomly two platoons of the first year of the CFO of the Academy of Military Police of the White Clay (APMBB) in São Paulo were chosen.

These officers students, in already approved TAF admission to APMBB, passed through the adaptation period of two weeks that aims to integrate and standardize the physical valences of the new academy students.

Semiannually these students perform FHT, and evaluated by note, which generates reflection on his career position, causing them to perform to the maximum of the evidence.

The TAF is the Fitness Test specified in Standard Training Program # 4 (PPT-4) PMESP. For the official learners is applied on 3 consecutive days where the first day contains dynamic testing of the fixed bar for men, support forward (elbow flexion) for women and also the 100m race for both. The second day includes abdominal strength test, which runs up the rower abdominal and maximum test shot of 40 "for both sexes. The third day containing the test run 12 '. Student performance is calculated and evaluated.

Having selected the two platoons, the first, called Squad 1 (P1), 28 subjects had a mean age of 25.8 (±4.7) years, containing 24 males and 4 females. The Squad 2 (P2) also had 28 individuals including 24 men and 4 women, with a mean age of 25.7 P2 (± 5.9).

For each Platoon determined if a physical model of periodization would be strictly enforced during physical education

classes available, with a charge of 4 hours per week for 23 weeks and evaluated by the end TAF.

The P1 had his scheduled workouts with periodization called "The BRTAF" as pictured

Macrociclo	Macrociclo I - Pelotão 1- 1º Semestre de 2014																											
Meses	Janeiro				Fevereiro				Março				Abril					Maio				Junho						
Semanas	13 19	20 26	27 02	03 09	10 16	17 23	24 02	03 09	10 16	17 23	24 30	31 06	07 13	14 20	21 27	28 04	05 11	12 18	19 25	26 01	02 08	09 15	16 22					
Períodos	Bloco A									Bloco B							Bloco C											
Etapas	Etapa de Base									Etapa Especial							Etapa Competições											
Microblocos	A1				A2			A3																				
Resist Aerób	***	***	***	***	**	**	**	**	**	*	*	*	*	*	*	*	***	***	***	***								
Resist Anaer	*	*	**	**	**	**	**	***	***	***	***	***	***	***	***	***	***	***	***	***								
RML	***	***	***	***	**	**	**	*	*	*	*	*	*	*	*	*	***	***	***	***								
Força	*	*	*	*	**	**	**	**	***	***	***	***	***	***	***	***	***	***	***	***								
Velocidade	*	*	*	*	*	*	**	**	***	***	***	***	***	***	***	***	***	***	***	***								
Flexibilidade	***	***	***	***	***	***	***	***	**	**	**	**	**	**	**	**												
Teste/aval***	***																				***							
* pouco importante																												
** importante																												
*** muito importante																												

Figura 1: Periodização BRTAF A

The basic step of this model aims to adapt the muscle groups promoting influences in energy availability as well as increased muscle strength as well as the impulse engines.

Step understood by "block b" aims to maintain the loads so there is the possibility of specialization of movements and valences that will be of paramount importance in competition or in the case study for exams TAF.

Finally the block "c" represents the competitive moment, and at this stage the athlete reaches its best performance can then compete in the main competition of the season.

When P2 was assigned periodization called "BRTAF B", which is characterized by promoting an initial preparation of the athlete in general, including their physical and specific valences according to the mode or type of evidence that will be submitted. Prevails intensity on the volume of training at this stage.

The stage at which the athlete reaches the peak of his physical optimization is called the competitive period, and during this period the students underwent the TAF.

After the competition period there is a stage of active recovery to subsequently resume the periodization of training in accordance with the goals of the athlete.

The figure below shows a schematic way the aforementioned model.

Macrociclo	Macrociclo I - Pelotão 2 - 1º Semestre de 2014																											
Meses	Janeiro				Fevereiro				Março				Abril					Maio				Junho						
Semanas	13 19	20 26	27 02	03 09	10 16	17 23	24 02	03 09	10 16	17 23	24 30	31 06	07 13	14 20	21 27	28 04	05 11	12 18	19 25	26 01	02 08	09 15	16 22					
Períodos	Período Preparatório									Período Competitivo											Período Transição							
Fases	Geral								Específica			Pré-competitiva			Competitiva						Transição							
Mesociclo	Incorporação				Básico				Específico			Pré-competitivo			Competitivo						Recuperativo							
Microciclo	Inc	Ord	Ord	Rec	Ord	Ord	Cho	Rec	Ord	Ord	Cho	Rec	Cho	Rec	Cho	Cho	Ord	Cho	Cho	Cho	Rec	Rec	Ord					
% Microciclo	26%	28%	30%	16%	22%	28%	32%	18%	28%	22%	32%	18%	34%	20%	40%	42%	26	Prova			22%	22%	34%					
Resist Aerób	***	***	***	***	***	***	***	***	**	**	*	*	*	*	*	*	*	***	***	***								
Resist Anaer	*	*	*	*	*	**	**	**	**	**	***	***	***	***	***	***	***	***	***	***								
RML	***	***	***	***	***	***	***	***	***	***	**	**	**	**	*	*	*	***	***	***								
Força	*	*	*	*	*	*	*	*	*	*	**	**	***	***	***	***	***	***	***	***								
Velocidade	*	*	*	*	*	*	*	*	*	**	**	**	**	***	***	***	***	***	***	***								
Flexibilidade	***	***	***	***	***	***	***	***	**	**	**	**	**	**	**	**	**											
Teste/aval***	***																				***							
* pouco importante																												
** importante																												
*** muito importante																												

Figura 2: Periodização BRTAF B

At the end of each period of training platoons were evaluated by the TAF, so that collected the results of each individual, male and female, and their indices in each event of the test.

The results of the tests were tabulated and analyzed using the Shapiro-Wilk test to verify the normality of the data, if not normal, we used the Mann-Whitney U and if the data were normal, we used the Student t test.

Results and discussion:

After the training period, it was found that all students initially from both squads showed up for the implementation of TAF without injury, declaring themselves in a position to be evaluated.

Table 1 shows the results with the average for each test obtained by the two platoons in the test and its standard deviation (STD) plus the total difference (Diff. Total) between groups.

Tabela 1: Resultados obtidos no Teste de Aptidão Física (TAF)

	idade	barra	abdominal	100 m	40''	12'
Geral						
P 1	25.8	16.5	50.07	13.4	260.8	2671.2
Desvpad P1	4.7	13.6	3.9	1.2	19.5	211.6
P2	25.7	13.5	45.1	13.7	253.6	2606.2
Desvpad P2	5.9	10.3	5.3	1.2	21.5	264.9
Dif Total	0.1	3	4.97	0.3	7.2	65

Each test was analyzed individually, as the figures below:

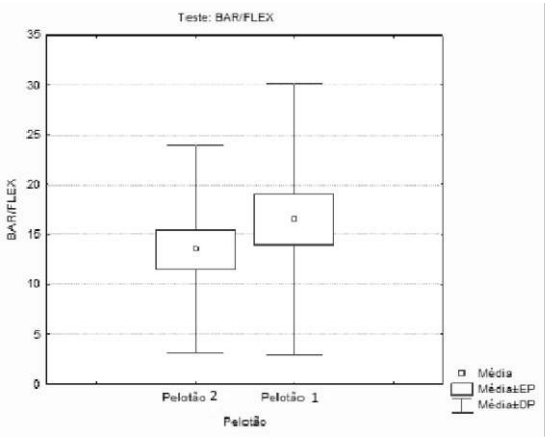

Figura 3: Estatística - testes da barra e flexão

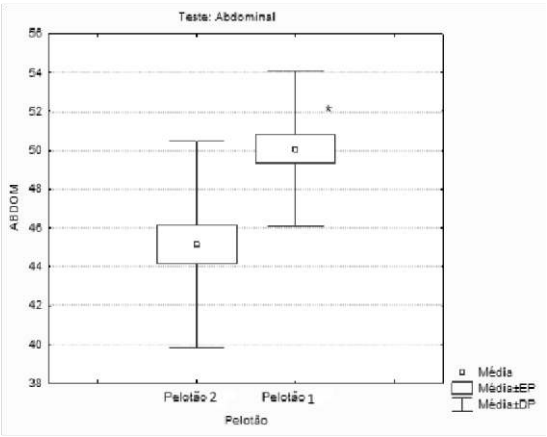

Figura 4: Análise estatística do teste do abdominal

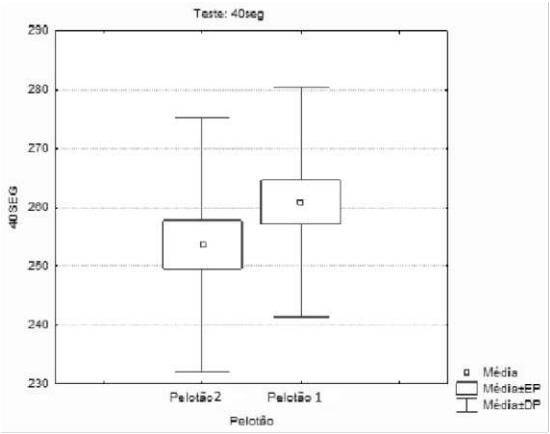

Figura 5: Análise estatística do teste de 40”

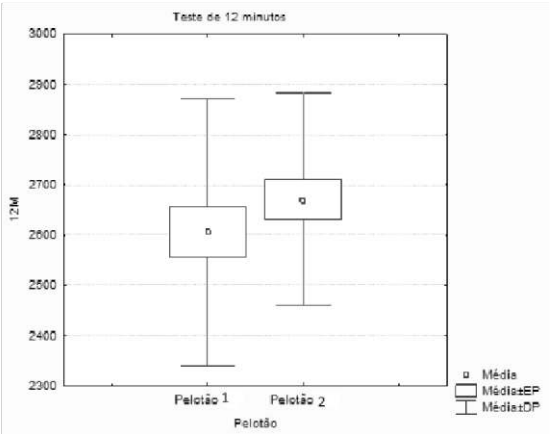

Figura 6: Análise estatística do teste de Cooper

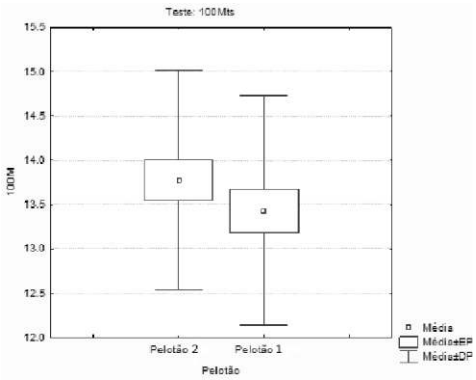

Figura 7: Análise estatística do teste de 100m

The results were statistically significant, mainly on the difference of evidence of abdominal strength, where P1, subject to periodization "BRTAF The" got better indexes. There was also a trend of decreased heterogeneity of P1, suggesting that the periodized training methodology "BRTAF The" can homogenize the group in less time.

Mantovani et al, 2013, suggested in their studies that generate overcompensation could bring satisfactory results for different physical demands, which corroborates the results taking into account the difference in the test of abdominal strength and a smaller disparity between individuals of P1.

Periodization in general for physical training can generate greater overcompensation, which was observed in the results found in both periodization, however, more efficiently in periodization "BRTAF A".

This overcompensation is caused by a high-stress training in energy substrates in the body, not going full replacement of worn, only partial (BARBANTI, 2001). However, after an interval workout a day or two, these stocks are replenished energy substrates increased in relation to what had and athletic performance is optimized (BOMPA, 2004) way.

Dantas et. al (2005) in their study illustrates four important aspects of periodization: the individuality of training loads, which respects the principles of biological individuality of athletes, the concentration of the loads of the same orientation training, which can generate optimized effects known when their deeply influences and consequences, the consecutive development of qualities, where waste loads are utilized to maximize the benefits of training and finally, the emphasis on specific job training, a modern feature that approximates the movements from training with the modality used in for which one trains.

These reasons suggest that the periodization "The BRTAF" may prove more promising when the goal is to achieve greater uniformity in the fitness of a group. Can also increase the ability of an individual to reach several peaks of physical optimization to attend events, internships, operations, graduations and all the specific actions of the officers APMBB students. Also applicable to other military officers and active military athletes, respecting the principle of biological individuality and optimization of health and labor availability.

There is also the need for further exploration and scientific literature on this subject, in order to ascertain the long term result of the periodization of training applications, prioritizing the welfare and optimization of services rendered to the company.

CONCLUSION

The periodization model called "The BRTAF" reached more significant in making the squad more homogeneous results.

Statistical analyzes showed no significant difference between the two periodization models, except for the test of abdominal rower, so that the model "BRTAF The" proved more effective.

There is overlap of the intensity over the volume in the model "BRTAF A", in turn, occurs in the inverse model "BRTAF B".

We suggest further studies comparing the proposed models with the usually used in order to ensure that the percentage of growth between groups when subjected to different models of periodization models.

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COMPARISON OF TWO MODELS PERIODIZATION TRAINING IN FITNESS FOR MILITARY POLICE

ABSTRACT

Physical fitness is one of the aspects most required during the formation of the military police, and in their daily police activity in overt and preserve public order. It is therefore vitally important to train these professionals who use technical-scientific and effective methods of physical training. For both study proposed to apply to two groups of 1st year of the Bachelor of Police Sciences Security and Public Order, two different models of periodization, called "BRTAF A" and "B BRTAF". At the end were assessed by a Fitness Test. It was concluded that the two periodization models were effective, however, the model "BRTAF A" tends to be more effective, since it provided a better homogeneity between individuals, and improve more significantly in muscular endurance tests.

KEYWORDS: periodization, fitness test, military police.

COMPARAISON DE DEUX MODÈLES PÉRIODISATION FORMATION EN ADAPTATION À LA POLICE MILITAIRE

RÉSUMÉ

La forme physique est l'un des aspects les plus nécessaires lors de la formation de la police militaire, et dans leur activité quotidienne de la police de l'ordre public manifeste et préserver. Il est donc extrêmement important de former ces professionnels qui utilisent des méthodes techniques-scientifiques et efficaces de l'entraînement physique. Pour les deux études proposé d'appliquer à deux groupes de 1ère année du baccalauréat en sciences de la police de sécurité et l'ordre public, deux modèles différents de périodisation, appelé "BRTAF A" et "B BRTAF". A la fin ont été évalués par un test d'aptitude physique. Il a été conclu que les deux modèles de périodisation sont efficaces, cependant, le modèle "BRTAF A" a tendance à être plus efficace, car il offre une meilleure homogénéité entre les individus, et d'améliorer de façon plus significative dans les tests d'endurance musculaires.

MOTS-CLÉS: périodisation, essai de remise en forme, la police militaire.

COMPARACIÓN DE DOS MODELOS PERIODIZACIÓN FORMACIÓN EN APTITUD PARA POLICÍA MILITAR

RESUMEN

La aptitud física es uno de los aspectos más necesarios durante la formación de la policía militar, y en su actividad diaria de la policía en el orden público abierto y preservar. Por tanto, es de vital importancia para formar a estos profesionales que utilizan métodos técnicos-científicos y eficaces de entrenamiento físico. Tanto para el estudio propuesto aplicar a dos grupos de primero año de la Licenciatura en Ciencias de la Policía de Seguridad y Orden Público, dos modelos diferentes de la

periodización, llamado "BRTAF A" y "B BRTAF". Al final fueron evaluados por un examen de aptitud. Se concluyó que los dos modelos de periodización eran eficaces, sin embargo, el modelo "BRTAF A" tiende a ser más eficaz, ya que proporciona una mejor homogeneidad entre los individuos, y mejorar más significativamente en las pruebas de resistencia muscular.

PALABRAS CLAVE: periodización, la prueba de la aptitud, de la policía militar.

COMPARAÇÃO ENTRE DOIS MODELOS DE PERIODIZAÇÃO DO TREINAMENTO NA APTIDÃO FÍSICA DE POLICIAIS MILITARES

RESUMO

A aptidão física é um dos aspectos mais exigidos durante a formação do policial militar, e em seu cotidiano na atividade de polícia ostensiva e preservação da ordem pública. É portanto de vital importância para formar estes profissionais que se utilize métodos técnico-científicos e eficazes de treinamento físico. Para tanto o estudo se propôs a aplicar em dois grupos do 1º ano do Bacharelado em Ciências Policiais de Segurança e Ordem Pública, dois modelos distintos de periodização, denominados de “BRTAF A” e “BRTAF B”. Ao final foram avaliados por um Teste de Aptidão Física. Concluiu-se que os dois modelos de periodização foram eficazes, porém, o modelo “BRTAF A” tende a ser mais eficaz, visto que proporcionou uma melhor homogeneidade entre os indivíduos, além de melhorar mais significativamente em testes de resistência muscular localizada.

PALAVRAS-CHAVE: periodização, teste físico, polícia militar.