

221 - PERIODIZATION FOR ACADEMY OF GYMNASTICS' PUPILS

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rafa_net@hotmail.com**INTRODUCTION**

Even in an unconscious way, human being exercised their body from the prehistory, when they needed to hunt and to defend themselves from predators to guarantee their survival. There are reports described in specialized literature that in the city of Olympia, in Greece, stones were found with socket for the hands, leading us to the hypothesis that they were used as one of the first means of physical training. Thus, it is noticeable that human being comes from ancient times looking for ways to exercise their body. Even before the Olympic Games be instituted as sports event, there were already several empirical practices in the quest for improved physical fitness.

As a result, the contact with the scientific literature about physical training allowed me to investigate and confront how the drafting of the strength training programs of Goiânia's fitness centres were, where I was for a long time as a student and subsequently as an intern. Since then, I set out to deepen in the knowledge about the criteria and guidelines for developing a physical training program. This work seeks to establish, from the theoretical point of view, teachers who prepare training programs inside our outside fitness centres. The idea is that they get to know some criteria and guidelines for a training program based on periodization.

Therefore, this study aims to identify the use of periodization in developing strength programs training in the academies of gymnastics.

This is a study based on the area of work and that used the method of description, that according with Piccoli (2004), it has the intention to store, to register by making analyses and simultaneously correlating cases or events, without manipulating data. This method aims to reveals phenomena to know its reality.

The study was carried out in two academies of gymnastics of the city of Goiânia - Goiás. Six teachers took part of the work; half of them were masculine and the other half feminine. The managers of the fitness centres allowed the study by a permission agreement. The data were collected together with the teachers, through a questionnaire of open and closed questions. Simultaneously to this, the consent terms have been reviewed so that the teachers were entitled subjects of the inquiry. The questionnaire has mentioned about the teachers' profile: age, period working in the area, backgrounds, work schedule, notions of training programs development; periodization concept, its importance and limits; and possibilities to divide training into periods in the academies of gymnastics.

DEVELOPMENT

The history of the physical exercise can be considered a culture and education school. It helps us to know and to understand the humanity, through the events, things and people, gearing up in several political, social, cultural, military and historical aspects of the civilizations. The knowledge about the past is the door in order to understand the present and the future. In the West, it is possible to affirm that the practice of physical exercises had begun in the prehistory, established itself in the Antiquity, it remained stable in the Middle Ages, it was based on the Modern Age and systematized in the early Contemporary Age, then, it became more athletic when its concepts are disseminating in the current days addressing for the future, in an eclectic way, dictated by new conditions of life and world (RAMOS; TUBINO; REIS, 1983).

Of these ways, we emphasize that the principles of physical training are guidelines to be followed for the development of any training program and physical preparation of athletes and non athletes. These principles, which have their theoretical foundation in biology, more precisely in the physiology of the functioning of the body subjected to exercise. Their importance reflects in the improvement and / or maintenance of physical fitness. These principles will provide a direction to teachers to choose content, methods and means to organize the training. According to Dantas (2003), the training principles, when well assimilated, allows the teacher to build programs and create their own methods and fitness techniques based on existing methodologies.

Thus, the idea of dividing the training into periods is not recent. In ancient Greece, the preparation of athletes was divided into cycles of three consecutive days and a rest day, which was called "tetras", it is evident today on the stages of training programs that are divided into periods such as: macrocycle, mesocycle and microcycles (DANTAS, 2003; GOMES, 2002; CALDAS; ROCHA, 1978; TUBINO, 1985 apud ALMEIDA, H.; ALMEIDA, D.; GOMES, 2000). Since then, periodization came as new demands of sports and physical training, it is getting consensus in the world of science. Today it is one of the main requirements for success and preserves the longevity of the athlete (FORTEZA; RIBAS, 1988; BERGER; MINOS, 1990 apud CALDEIRAS/d).

According to American College of Sports Medicine (2002) apud Fleck and Kraemer (2006), the periodization of training is of extreme importance in order that good results are obtained. In this sense, the periodization is the general structure and through training and time. It is associated with the concept of season training division into periods or cycles, with clear objectives and specific content, respecting the principles of physical training (DANTAS, 2003; GOMES, 2002). The capacity of improvement reached by the individual is a state of optimum arrangement of the athlete in order to obtain a mark, which is gotten, under certain conditions, in each period of training (MATVEEV, 1997 apud MONTEIRO, 2006). Some studies, which compare the non periodized training and the periodized training, show that programs without modification are very likely to result in a plateau of training, however accrued programs involve more significant gains in physical fitness (FLECK; KRAEMER, 2006).

RESULTS AND DISCUSSIONS

The surveyed participants are mostly young people aged on average 25,8 + 4,07 years. However, it was only identified a teacher whose age was outside the parameters of average age, 32 years. Even so, great part of the teachers has lower age varying between an age group from 21 to 26 years. Regarding the teachers' and educational institution's backgrounds, the majority of teachers are graduates in Education in private institution high education. One of the teachers, which were an

intern, studies at the University of Goiás and is attending the 4th period. Only one is graduated in the Federal University of Goiás.

Concerning the specialization courses, it was checked that 50 % of the investigated teachers have a specialization. Of this percentage, the majority opted for areas related to academies of gymnastics. However, it is necessary to emphasize that only a teacher has specialization on Physical School Education. Following the same logic, the predominance of updating courses with the same themes as the specialization courses is perceptible. All the teachers, did only a specialization course since they graduated. Perhaps that happens because they ended their graduation not long ago. It is also noticeable the predominance in the courses of specialization carried out in private institution high education. that, as it can be seen, they participate in the training of teachers since graduation. It is perhaps due to the fact that private institutions work with the capitalist logic of market. It is known that only the titles do not guarantee work quality, simultaneously with the demands of the labour market. It must be emphasized that only one graduated teacher has specialization in public institution.

Regarding the total workload of teachers' work, half of them works between four to eight hours per day and 33.3% work more than 12 hours a day. Therefore, it is possible to infer that most of them have a long day's work, becoming superior to 12 hours daily. It is important to note that only the physical education student works four hours a day, which is according with the intern's law guidelines, which represents the lowest workload. From these surveys, it is necessary to understand two aspects: First, the working hours of the academies of gymnastics are much longer than other establishments that provide services; they are sometimes opened 16 hours a day. Second, the low pay makes them work in several periods of the day to supplement income to meet their basic needs.

In their work schedule, teachers attend on average 56,7 to 23,38 pupils. It is noticeable the great disparity in the quantities of pupils attended daily by the teachers, ranging from 30 to even more than 80 pupils during the working hours. That is due to the different time-tables in which the teachers act and the quantity of students the gymnastic academy enrolls in the period of the morning and afternoon when there are fewer students than in the evening period, after 6pm, time that people leave work and go to the gymnastic academy. The surveyed gymnastic academies have on average 3,5 to 1,05 teachers, this quantity meets at least the proportional to the number of a teacher per work day. Another factor that influences the teachers' number is the quantity of pupils enrolled in the gymnastic academy. All the surveyed teachers prepare their programs of bodybuilding. That is seen as a positive point, since they have autonomy in the preparation of the training for their pupils, who will not having to undergo programs designed, for example, by the coordinator of the area.

When asked about the ideal number of students to be met in order to respect the principles of physical training, the answers were homogenous and had a range of 3 to 15 students per hour. Another teacher points out that fewer students would be better to know and be constantly modifying the exercise program, which is consistent with the principles of physical training adaptation.

On the criteria of the training programs preparation, some of the principles of physical training were quoted by most of the teachers, such as biological individuality and adaptation. Only two professionals brought other elements of great importance in the training programs preparation such as: gender, pathology, physical assessments, injuries and family history. Most of the interviewed ones quoted the biological individuality as essential for development of physical training programs. Out of all of the teachers, only two presented a greater amount of data on the criteria of program development. Based on Monteiro (2006), any training program must be made individually, in order to gain control of its variables. The physical evaluation and the passive tests, as a clinical anamnesis, physical anamnesis, physical composition and the physical metabolic tests and neuromuscular. It is possible to infer certain deficiency in the scientific knowledge in order to develop a training program. Several teachers reported the biological adaptation and individuality and no other criterion for the training preparation, it is perhaps for the consensus that we have about weight-training: these basic principles are very often affirmed without knowledge in its totality. It was also highlighted the concern of the load distribution in accordance with the time of the pupil's training, to be more precisely, a specific program for the period of adjustment, intermediate and advanced.

When it was asked to prepare an eight-week program, most teachers presented, even in a summary way, the basics for the program assembly for beginner students. Even without bringing the names of the training programs and methods, teachers bring consistent means for developing training for beginner, with low-intensity and low volume, and sets for the various muscle groups. After the first four weeks, great part of the teachers proposed a more specific work focused on the student's goal. In the assembly of a training strength program, it cannot be misunderstood the training programs with training methods. The elaboration of training programs are nothing more than the order of the exercises in the training form and the methods are the various possibilities to workout, depending on the program chosen (CHARRO; UCHIDA, 2006).

On the preparation of program for experienced pupils, with objective of muscular hypertrophy, only two teachers quoted some training methods, however no training program. The others only emphasized the decrease in volume and increased intensity of the training, characterizing the overload principle. Therefore it is necessary to analyse the deficiency in knowledge related to the programs and training methods. Programs and methods are very important in the development of physical training. Systematized physical training, provide information and answers to the teacher about the best ways to adapt to it. The clarity of its functioning brings more elements to the teacher to propose training encompassed in specificity, seeking to meet the student's goals.

Dealing with the concepts and the importance of periodized training to the pupils academies of gymnastics, there is little understanding and weakness in the teachers' answers. They all bring very few elements that appoint the periodization of physical training, and, with that, defective concepts, unable to explain the importance of periodization in physical training. This may be due to the lack of contact with literature, both in its historical context and on several current models of periodization training. The teachers' definitions about periodization come against what was expected, even because they do not make solid concepts of the basic principles of physical training and basic criteria for developing a physical training program. They all present some elements for the periodization, however there is a lack of the depth and the true knowledge of periodization and its rudiments. Moreover, the periodization of the training is connected more with the collective and individual sports and high-performance athletes, found out of the reality of the fitness centres. However, although the periodization has been developed for high performance sport, it can also be used by practitioners of sport as a leisure, for several programs of physical exercise with different purposes like weight loss and muscle hypertrophy and for programs with the intention of the performance improvement, focused on the promotion or maintenance of the health (MONTEIRO, 2006).

When asked about the possibilities and limits of a training been divided into periods within the realities of the fitness centres, it was seen in the totality of the answers the difficulty in dividing a training into periods for all the academy's pupils, due to the excessive number of practitioners and few teachers.

Actually, a great number of pupils attended by a small number of teachers make it difficult to prepare a periodized program of systematic physical training. Most of the times, the teacher has no time to prepare a program taking the criteria to preparation of a program based on the scientific knowledge. Another item brought in the speech of one of the teachers is the

difficulty of the intervention of the teacher in the fitness centre. Some pupils ignore several principles of the training and train as they like, not accepting that the teacher changes their training. That happens because the gymnastic academy is a place loaded with myths and paradigms, and so the teacher must be grounded in the scientific knowledge to try to change the concept of the pupils. Other points that were not mentioned by the teachers, like attendance also interferes with the achievement of the students' objectives in a periodization program. All the mentioned limits do not prevent the teacher from building a periodized program. What was realised was that, the teachers put the lack of time and the great number of pupils like total obstacles in the preparation of the training. However, as it has been seen in previous statements on the scientific knowledge of these teachers, the main reason not to prepare a training divided into periods is the lack of scientific knowledge about the precepts of a periodized training, even the basic principles of the training and the criteria that they "showed" to prepare a weight-training program.

When asked to talk about the periodization in the reality of the personal trainer's students, most of the teachers claim that it is easier to direct the training by doing a periodization, since there is time for it; another teacher quotes the daily feedback with his pupil contributing to changes in the training variables. Since it can be seen, teachers are now talking about the possibility of periodize the training of the personal trainer's students as it is an individual training. However, since it was previously seen, what is really missing is a true scientific knowledge of the directives and of the principles for developing a periodized training program.

FINAL CONSIDERATIONS

In the modern world, where the bonds of the capitalism make a large part of the population face with a significant workload and a very little time for leisure and physical exercise, the population looks for places with flexibility of time-table to carry out their physical activities, like the academies of gymnastics. It is also possible to highlight that the intention to look for a gym is due to the guidance provided at that place, since it subtends that there are qualified professionals to practice their functions' duty. It can not fail to mention the constant search for aesthetic, imposed by the standards of beauty, influenced by the media and changing the population's habits of life.

Most of the teachers who are today in the fitness centre, are graduated in physical education and lato-sensu post-graduation in areas related to health, training and fitness centre, carried out mostly in private institutions of high education. The market is demanding these professional titles. The majority, also carries out courses of updating in the same areas of the specializations and updates their knowledge through books, scientific magazines and Internet. All the surveyed teachers have more than two years of acting in the area of weight-training experiencing heavy workload, sometimes, even more than 12 hours daily, making it difficult to study and update their knowledge. In addition, they attend many pupils in their work shifts, making it difficult the attendance and the preparation of training based on the training principles and marked out in the criteria for preparation of a physical exercises program.

There are several points to periodize training in the fitness centre, as student attendance, large number of practitioners for few teachers, poor teacher intervention in order to propose changes in the training of some pupils and excessive workload faced by teachers. However, the main reason not to develop a periodized training is the lack of scientific knowledge to the periodized training precepts, and even the basic principles of physical training, along with the criteria used to define a weight-training program.

BIBLIOGRAPHICAL REFERENCES

ALMEIDA, H. F. R.; ALMEIDA, D. C. M.; GOMES, A. C. Uma ótica evolutiva do treinamento desportivo através da história (Na evolutionary perspective of the sport training through history). In: **Revista Treinamento Desportivo (Sport Training Magazine)**, Curitiba, v. 5, n. 1, p.40-52, 2000. Available in: <www.antonioocgomes.com.br/artigos/Revista%20TD_01-2000.doc>. Accessed in: Oct 26 2008.

CALDAS, P., R., L., ROCHA, P., S., O. **Treinamento Desportivo (Sport Training)**. v.I. Brasília: Ministério da Educação e Cultura - Secretaria de Educação Física e Desportos (Education and Culture Ministry – Physical Education and Sports Department). 1978.

CALDEIRA, M. **Planificação e Periodização (Planning and Periodization)**. Available in: <<http://www.treinamentoesportivo.com/artigosTE.com/tenis009.htm>>. Accessed in: Nov 11 2008.

DANTAS, E. H. M. **A prática da Preparação Física (The Physical Preparation Practice)**(. 5. ed. Rio de Janeiro. Shape, 2003.

FLECK, S. J.; KRAEMER, W, J. **Fundamentos do Treinamento de Força Muscular (Strength Training Muscle Foundations)** (. 3 ed. Porto Alegre. Artmed, 2006.

GOMES, A. C. **Treinamento Desportivo: Estruturação e periodização (Sport Training: Structure and periodization)**. Porto Alegre. Artmed, 2002.

MONTEIRO, A. G. **Treinamento Personalizado: Uma abordagem Didático-Metodológica (Personal Training: A Didactic-Methodological Approach)**. 3 ed. São Paulo. Phorte, 2006.

PICCOLI, J.C.J. **Normatização para trabalhos de conclusão de curso em educação física (Standardization work for completion of physical education course)**. 1ª ed. Canoas: Ulbra, 2004.

RAMOS, J. J; TUBINO, M. J. G; REIS, C. de M. **Os exercícios físicos na historia e na arte: do homem primitivo aos nossos dias (The physical exercise in history and art: from primitive man to our present Day)**. São Paulo: IBRASA, 1983.

UCHIDA, M. C. et al. **Manual de musculação: uma abordagem teórica-prática do treinamento de força (Manual of weight-training: an approach theoretician-practice of the training of strength)**. 4 ed. – São Paulo: Phorte, 2006.

PERIODIZATION FOR ACADEMY OF GYMNASTICS' PUPILS

It is increasing the number of people who look for physical practices in academy of gymnastics, glimpsing aesthetic, therapeutic and recreation objectives and, with rare competitive exceptions. Nevertheless, whatever is the goal to be reached; it has to be clear about the criteria and guidelines for the preparation of a planning based on the scientific knowledge. The training periodization, arose out of the sport, shows it self as an element of great importance in the preparation of the strength training programs. Thus, the study has as objective: Identify the use of periodization by teachers when developing programs of strength training in gymnastics academies of Goiania's city. It is a study based on the area of work and a study that used the method of description. The study included 6 teachers of weight training, 3 of each academy surveyed, half male and half female, with an average age of 25.8 + 4.07 years, and with an average of 6 + 4.43 years of experience in the area, so they are consequently characterized experienced. The vast majority has a degree in physical education and lato-sensu post-graduated in areas related to health, fitness centre and training. And they also, update their knowledge in these areas. However, the teachers present difficulties in conceptualizing some basic physical training principles and also, to set guidelines and criteria used for the

preparation of a strength training based on scientific knowledge. Great fragility was identified when they conceptualize the periodization and its importance in the strength training programs. Simultaneously with these data, the teachers do not use the periodization in the elaboration of the training programs, because of the excessive number of pupils at the fitness centres, for the lack of pupils' diligence, excessive workload, difficulties of intervention in their practice and due to lack of theoretical knowledge about the assumptions of a training program periodization.

KEY WORDS: Training, Periodization, Academies of Gymnastics.

PÉRIODISATION POUR LES ÉTUDIANTS GYMNASSES

Un nombre croissant de personnes cherchent à pratiquer le sport en académie, pour des objectifs esthétiques, thérapeutiques, de divertissement et rarement de compétition. Néanmoins, quel que soit l'objectif à atteindre, les critères et lignes directrices doivent être clairs pour l'élaboration d'une planification basée sur les connaissances scientifiques. La périodisation de la formation, venue à ce sport, est montrée comme un point d'importance majeure dans les programmes d'entraînement en force. Ainsi, l'étude a pour objectif d'identifier l'utilisation de la périodisation par les enseignants, dans l'élaboration des programmes de formation de force dans les gymnases de la ville de Goiânia. Il s'agit d'une étude de terrain, avec la méthode utilisée pour la description. L'étude comprenait 6 professeurs de musculation, 3 de chaque académie interrogées, pour moitié hommes et moitié femmes, avec une moyenne d'âge de 25.8 + 4.07 ans, et avec une expérience dans le domaine d'en moyenne 6 + 4.43 ans, les caractérisant comme expérimentés. La grande majorité a un diplôme en éducation physique et post-universitaire dans les domaines liés à la santé et de conditionnement physique. Ils modernisent leurs connaissances aussi dans ces domaines. Néanmoins les enseignants présentent des difficultés à évaluer quelques principes de base de l'entraînement physique et également, définir les lignes directrices et critères utilisés pour définir un entraînement en force fondé sur les connaissances scientifiques. A été identifiée aussi une grande fragilité lorsqu'ils conceptualisent la périodisation même et son importance dans les programmes d'entraînement en force. Parallèlement à ces données, les enseignants n'utilisent pas la périodisation dans l'élaboration des programmes de formation, à cause du nombre excessif d'élèves dans les académies, faute d'assiduité de l'élève, la charge horaire excessive de travail, des difficultés d'intervention dans leur pratique et principalement par manque de connaissances théoriques sur les hypothèses d'un programme de formation périodisé.

MOTS CLÉS : Formation, Périodisation, Académie.

PERIODIZACIÓN PARA ESTUDIANTES GIMNASIOS

Es creciente el número de personas que buscan las prácticas corporales en gimnasios, vislumbrando objetivos estéticos, terapéuticos, recreacionales y, con raras excepciones, competitivos. Además, cual sea el objetivo que se desea alcanzar, hay que tener claridad de los criterios y directrices para la elaboración de un planeamiento fundamentado en los conocimientos científicos. La periodización del entrenamiento, proveniente del deporte, se muestra como elemento de gran importancia en la constitución de los programas de entrenamiento de fuerza. De esa forma, el estudio presenta como objetivo: identificar la utilización de la periodización, por los profesores, en la elaboración de programas de entrenamientos de fuerza en gimnasios de la ciudad de Goiania. Se trata de un estudio de campo, teniendo como método utilizado el descriptivo. Participaron del estudio 6 profesores de musculación, 3 de cada gimnasio donde se hizo la encuesta, siendo mitad del sexo masculino y la otra del sexo femenino, con edad promedio de 25,8 + 4,07 años, con actuación en el área en media de 6 + 4,43 años, caracterizándose como expertos. La gran mayoría posee graduación en educación física y posgrado *lao sensu* en las áreas relacionadas a la salud, entrenamiento y gimnasia. Actualizan sus conocimientos también en esas áreas. Además, los profesores muestran dificultades en conceptualizar algunos principios básicos del entrenamiento físico y, también, definir directrices y criterios utilizados para la elaboración de un entrenamiento de fuerza basado en los conocimientos científicos. Fue identificada también fragilidad cuando los mismos conceptúan la periodización y su importancia en los programas de entrenamiento de fuerza. Simultáneamente a esos datos, los profesores no utilizan la periodización en la elaboración de los programas de entrenamiento, por el número excesivo de alumnos en los gimnasios, por falta de asiduidad del alumno, carga horaria excesiva de trabajo, dificultades de intervención en su práctica y principalmente por la falta de conocimientos teóricos sobre los presupuestos de un programa de entrenamiento periodizado.

PALABRA LLAVE: entrenamiento; periodización; gimnasio

PERIODIZAÇÃO PARA ALUNOS DE ACADEMIAS DE GINÁSTICA

É crescente o número de pessoas que procuram as práticas corporais em academias de ginástica, vislumbrando objetivos estéticos, terapêuticos, recreacionais e, com raras exceções, competitivos. Contudo, seja qual for o objetivo a ser alcançado, tem que ser ter clareza dos critérios e diretrizes para a elaboração de um planejamento fundamentado nos conhecimentos científicos. A periodização do treinamento, advinda do desporto, mostra-se como elemento de grande importância na constituição dos programas de treinamento de força. Dessa forma, o estudo apresenta como objetivo: Identificar a utilização da periodização, pelos professores, na elaboração dos programas de treinamento de força em academias de ginástica da Cidade de Goiânia. Trata-se de um estudo de campo, tendo como método utilizado o descritivo. Participaram do estudo 6 professores de musculação, 3 de cada academia pesquisada, sendo metade do sexo masculino e a outra do sexo feminino, com idade média de 25,8 + 4,07 anos, com atuação na área em média de 6 + 4,43 anos, caracterizando-os como experientes. A grande maioria possui graduação em educação física e pós-graduação *lato sensu* em áreas relacionadas à saúde, treinamento e academia. Atualizam seus conhecimentos também nessas áreas. Contudo os professores mostram dificuldades em conceituar alguns princípios básicos do treinamento físico e, também, definir diretrizes e critérios utilizados para elaboração de um treinamento de força baseado nos conhecimentos científicos. Foi identificada também grande fragilidade quando os mesmo conceituam a periodização e, sua importância nos programas de treinamento de força. Concomitantemente a esses dados, os professores não utilizam a periodização na elaboração dos programas de treinamento, pelo número excessivo de alunos nas academias, por falta de assiduidade do aluno, carga horária excessiva de trabalho, dificuldades de intervenção na sua prática e principalmente pela falta de conhecimentos teóricos sobre os pressupostos de um programa de treinamento periodizado.

PALAVRAS CHAVE: Treinamento, Periodização, Academia.

PUBLICAÇÃO NO FIEP BULLETIN ON-LINE: <http://www.fiepbulletin.net/80/a1/221>