80 - THE DECREASE IN BODY FAT IN PRACTICING THE LAMBAERÓBICA FEATURED BY DERMATOGLYPHICS

FABRÍCIO F. BRASILINO;
MÔNICA F. BRASILINO;
PEDRO J. C. MORALES
UNIVERSIDADE DA REGIÃO DE JOINVILLE
Departamento de Educação Física
Joinville/SC/Brasil
fabricio.brasilino@univille.br

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INTRODUCTION

The lambaeróbica is a relaxed class, conducted for the music that will pack the choreography. Classes can be composed of heterogeneous classes, plus your largest audience is female. The choreographies are assembled by a professional who will give classes, this makes it able to target and develop their movements aiming at the characteristics of the group, it may be easy acceptance can be done by individuals of various ages, just have a little willpower and pace.

According to Guedes (2003), in addition to walking, running, cycling and swimming, other sports such as gymnastics, dance, and certain types of sports can also be practiced with predominantly aerobic, and therefore, induces important metabolic and functional adaptations body weight control.

Provides great physical condition, due to the type of aerobic work that is performed:

Tones muscles and strengthens the legs, especially the region of the waist, hips and legs;

For children it is a good job, because it develops motor coordination and the body schema;

Contributes to self-esteem, mental capacity, good humor, good for sleep, and combat anxiety and stress, it releases hormones that accumulate and act as a natural tranquilizer.

Our body is basically formed by muscle, bone, and residual adipose tissue. However, the focus of this study is in relation to body fat.

According to Fonseca-Alaniz et al. (2005) adipose tissue is the main energy reservoir body. Adipocytes are the only specialized in the storage of lipids in the form of triacylglycerol (TAG) on your cell cytoplasm, without this being detrimental to its functional integrity.

For the routines of physical exercise can produce adaptations in the desired direction, it becomes necessary to establish combination of three basic components: frequency, duration and intensity of physical effort.

According to Foss, et al (2000), these three factors, the intensity is probably the most important in relation to the improvement of both aerobic energy systems as skeletal muscle organ responsible for oxygen transport.

The dermatoglyphics in which we used to characterize the sample is a Russian method, developed in Moscow and brought to Brazil by Prof. Dr. José Fernandes Filho, Castelo Branco University of Rio de Janeiro in order to reveal the genetic potential to develop strength, speed, coordination and endurance (with a possible correlation with the type of muscle mass), genetically inherited from your parents which is set during the third and sixth month of pregnancy (Dantas et al, 2011).

Through fingerprint is possible to identify various individual information, where it is possible to obtain more accurate diagnoses even on predisposition to some characteristic according to the shape of the fingerprint. Fernandes Filho (2004, cited Fernandes Filho 2003) cites that "ID's reveals, in its characteristics, processes and speed of growth, and also allow forming an outline of the principles of association of ID's with the functional manifestations: strength, speed, coordination, strength and cyclical activities".

Most authors identified three groups of drawings: arc (A), fastener (L), and along, the whorl and S-drawing (W). The shape of drawings constitutes a qualitative characteristic (Abramova, 1995).

Assuming that the decrease in body fat is of great importance to the people who practice this modality conducted this study to identify and characterize their possible effects.

METHODS

The population study consisted of participants of the classes held in the Academy lambaeróbica Bodybuilding Way, Vila Nova district in the city of Joinville-SC women. Sample comprised 24 females, aged 18 to 45 years. Study participants signed a free and informed commitment and with the approval of the ethics committee about protocol 303 158.

Anthropometric data were used to obtain body composition, body density is obtained by the generalized formula Petroski, 1999 (three skinfolds).

The Petroski protocol (1999) for women from southern Brazil 18-61 years old, and uses three folds: mid axillary, suprailiac and thigh. The fat percentage was obtained by conversion of IRIS 1961 equation.

PREDICTION EQUATION OF BODY DENSITY FOR FEMALE PETROSKI (1999)

$D = 1,04127059 – 0,00087756\ (X3) + 0,00000380\ (X3)^2 - 0,00025821\ (ID) – 0,00059076\ (MC) + 0,00051050\ (ES)$.

where:

X3 = Σ of the subscapularis, suprailiac and thigh skinfolds

ID = Age

BM = body mass

ES = Height

For prediction of fat percentage, the equation of Siri equation (1961) was used:

$\%G = \{(4,95/DC) – 4,50\} * 100$

We used the protocol of Cummins and Midlo (1961, cited in Filho and Ferreira, 2008) to determine the dermatoglyphic characteristics. To obtain fingerprints, was used a registration of fingerprints.

The proposed Cumins and Midlo (1943 cited in Filho and Ferreira, 2008) distinguishes fingerprints in:

- Arc "A", where the design does not have deltas, in other words, trirrádios crossing ridges that make up the digital pad;
- Clip "L" is characterized by a delta, where the drawing is an enclosed environment and the ridges of the skin starting from one end of the finger, are brought down distally relative to one another, and do not approach thereof;

- Whorl "W" and "S design", is characterized by the presence of two deltas, where the figure is closed and the center lines are concentrated around the center of the drawing.

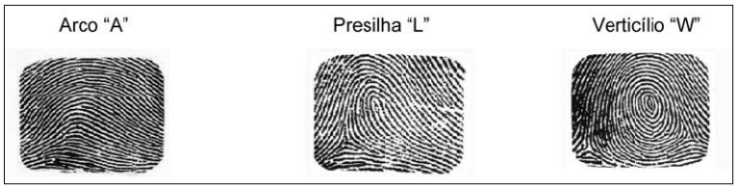

Figure 1 - Drawing dermatoglyphic (Dantas et al., 2004)

After collection of data began training through classes lambaeróbica, performing two weekly sessions lasting 60 minutes. The sessions were composed of initial heating and stretching, followed by the main part with characteristics songs mode and ending with a return to calm.

After completing the training sessions a total of 35 was performed a post-test with a new anthropometric data collection, including the percentage of fat and used the same protocol as the pretest, Petroski, 1999 (three skinfolds).

The materials used in Anthropometric test out: data collection forms, Cescorf clinical skinfold caliper, brand Cardiomed and anthropometric tape Cardiomed. To collect the body weight used to balance precision Felizola. The digital collection was given by dyeing the dermal papillae of the fingers impregnation with dark ink water-based, using collecting, pen and pad sheet with ink

The collected data were tabulated in a database in Excel for Windows spreadsheet and then adjusted were treated statistically using the Statistical Package for the Social Sciences (SPSS) 16.0 for Windows. Descriptive statistics with measures of central tendency (mean) and (standard deviation) measures of dispersion was used. The Shapiro-Wilk normality test demonstrated between data, opting for the post-hoc Tukey ($p < 0.05$).

Analysis of Results

The following study of 24 female subjects aged 18-54 year, with the aim of verifying the effects of modality lambaeróbica on lowering body fat characterized by dermatoglyphics yielding the following results according to the tables.

Table 1-Comparison between pre- and post-test body composition of practitioners lambaeróbica subjected to two sessions per week.

Variables	Pre-test n=23	Post-test n=23	Δ(%)	*p*
Age	30.5±10.0	30.9±9.9	0.5(1.5%)	0.88
Weight(Kg)	66.7±13.8	65.9±12.3	-0.8(-1.2%)	0.84
Height (cm)	161.6±6.2	161.5±6.3	-0.1(-0.1%)	0.94
% Fat	29.3±7.8	28.5±6.6	-0.8(-2.9%)	0.70

Δ(%) absolute and relative difference between the averages obtained from the total sample.
Post-hoc Tukey $p<0.05$.

Table 2-Comparison of body composition between groups of practitioner's lambaeróbica submitted to two sessions per week.

Test	Variables	Oxidative group n=8	Glycolytic group n=15	Δ	*p*
Pre	Weight (Kg)	65.7±13.1	63.9±13.8	8.25 (11.4%)	0.17
	% Fat	28.6±6.4	27.7±8.2	4.8(14.8%)	0.16
Post	Weight (Kg)	65.7±9.3	64.2±12.2	1.45(2.2%)	0.96
	% Fat	27.8±5.4	27.7±6.7	0.13(0.5%)	0.77

Δ(%) absolute and relative difference between the averages obtained from the total sample.
Post-hoc Tukey $p<0.05$.

Observing and analyzing the Table. 1, the results obtained and compared between pre- and post-test a decrease of -0.8 (-2.9%) body fat. But according to the statistical test adopted, this decrease was not significant ($p = 0.70$).

Table 3-Comparison between pre- and post-teste lambaeróbica oxidative group of practitioners

Variables	Oxidative group Pre-test n=8	Oxidative group Post-test n=8	Δ	*p*
Age	30.1±8.6	30.0±8.8	-0.6(-2.1%)	0.89
Weight(Kg)	65.7±13.1	65.7±9.3	-6.5(-9.9%)	0.24
Height (cm)	149.1±4.2	162.4±6.0	1.0(0.6%)	0.70
% Fat	28.6±6.4	27.8±5.4	-4.7(-16%)	0.24

Δ difference found between the means of the pre- and post-test of oxidative group.
Post-hoc Tukey $p<0.05$.

Table 4-Comparison between pre- and post-test lambaeróbica.glycolytic group practitioners

Variables	Glycolytic group Pre-test n=15	Glycolytic group Post-test n=15	Δ	*p*
Age	30.4±10.8	31.1±10.9	0.8(2.4%)	0.85
Weight(Kg)	63.9±13.8	64.2±12.2	0.3(0.5%)	0.95
Height (cm)	163.5±6.2	161.5±7.3	-0.2(-0.1%)	0.93
% Fat	27.7±8.2	27.7±6.7	0.02(0.05%)	1.00

Δ difference found between the means of the pre- and post-test of glycolytic group.
Post-hoc Tukey $p<0.05$.

In Tab. 2 and 3, the data of oxidative and glycolytic groups compared between pre- and post-test are presented. The

difference in body fat between pre- and posttest oxidative group according to Tab. 2 was -4.7 (-16%), but according to the Student's t-test this result was not significant (p = 0.24).

In the Tab. 3, where the results obtained pre and post-glycolytic group we see that the test body fat obtained difference of 0.02 (0.05%), also according to the Student t-test did not obtain a significant result (p = 1.0).

Even not getting significant results indicates that the greatest decrease in relation to body fat oxidative group -4.7 (-16%) when compared with the results of glycolytic group 0.02 (0.05%). Many variables must be analyzed and controlled to a better outcome, but this study sought to determine the effects of classes of lambaeróbica as are given in many places without greater control of intensity and frequency.

Lopes (1987) states that the intensity, the weekly frequency, the length of sessions and the type of program directly influence on the effect of aerobic training, however, then aerobic training has characteristics that determine their best use of them is the frequency, second Cooper (1982) suggests that aerobic training occurs at least three times a week, but if possible four times per week.

The American College of Sports Medicine (1980), a frequency of recommended training for 3 to 5 days a week. According to Pollock (1993), aerobic training done 2 sessions per week with a load 30% higher than a 3 training sessions per week, does not differ in relation to the gain in VO2max of a person, however with training done 2 sessions per week not accrue losses in body composition. Mcardle, Katch and Katch (2008) describe that training should be three sessions per week.

CONCLUSIONS

From the data obtained and the relationship made between the pre- and post-implementation, it was determined that the results were not satisfactory to ensure that this program were successfully as decreased body fat (p = 0.70). It was observed from this study need increased weekly sessions of class's lambaeróbica as well as greater control of variables, mainly on the intensity of the class variable from the bpm of the songs, selected for practice.

It was found in this study developed, using the mode lambaeróbica, that qualitative dermatoglyphics not differed in groups.

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Rua Theodoro Francisco Engel 274 Bairro: Schramm - São Bento do Sul/SC. Brasil. CEP: 89290-000

THE DECREASE IN BODY FAT IN PRACTICING THE LAMBAERÓBICA FEATURED BY DERMATOGLYPHICS

ABSTRACT

A method of lambaeróbica gained national proportion, due to expansion and public acceptance of Bahian music and the emergence of various groups, who spread the pace throughout Brazil. There was an increase in the demand mode for slimming purposes. This study aimed to analyze the reduction of body fat in practicing this sport and characterizes them by dermatoglyphic. Participants were 24 female subjects, the only practicing lambaeróbica, with participants from two weekly sessions lasting 60 minutes. By the end of the survey totaled up 35 sessions. For the assessment of body fat from skinfold protocol with generalized equation for body density (Petroski, 1999) was used. As for the density conversion relative to the fat, we used the Siri equation (1961). For the identification of dermatoglyphic characteristics, protocol by Cummins & Midlo (1961, apud Fernandes Filho and Ferreira, 2008) was used, allowing the division in two oxidative and glycolytic groups. Comparing the relative fat (%BF) pre participation (n = 23) showed a decrease of -0.8 (-2.9%) between the means (p = 0.70). Oxidative group (n = 8) compared the results of the pre-test results with 28.6 ± 6.4 27.8 ± post-test was decreased by -4.7 5.4 (-16%), although not confirming statistical significance (p <0.05) .The glycolytic group (n = 15) had lower results between the pre-process testing participation 27.7 ± 8.2% and after 27.7 ± 6.7% involvement , an increase of 0.02 (0.05%) of body fat (p = 1.0). This research was observed through the data need to increase the weekly sessions of the activity and also greater control variable intensity.

KEYWORDS: Body fat, Lambaeróbica, Dermatoglyphics.

LA DIMINUTION DE LA GRAISSE DANS LE CORPS CARACTÉRISE PAR DERMATOGLYPHICS EM LAMBAERÓBICA PRATIQUE

RÉSUMÉ

Une méthode de lambaeróbica gagné proportion nationale, en raison de l'expansion et l'acceptation publique de la musique bahianaise et l'émergence de divers groupes, qui répandent le rythme dans tout le Brésil. Il y avait une augmentation dans le mode de demande de l'amincissement. Cette étude visait à analyser la réduction de la graisse du corps dans la pratique de ce sport et les caractérise par dermatoglyphique. Les participants étaient 24 sujets féminins, la lambaeróbica seulement pratique, avec des participants de deux séances hebdomadaires de 60 minutes. À la fin de l'enquête ont totalisé jusqu'à 35 sessions. Pour l'évaluation de la graisse du corps de protocole du pli cutané avec l'équation généralisée de la densité du corps (Petroski, 1999) a été utilisé. En ce qui concerne la conversion de densité par rapport à la matière grasse, on a utilisé l'équation de Siri (1961). Pour l'identification des caractéristiques dermatoglyphiques, protocole par Cummins et Midlo (1961, apud Fernandes Filho et Ferreira, 2008) a été utilisé, ce qui permet la division en deux groupes oxydatives et glycolytiques. En comparant la graisse relative (% BF) de la participation avant (n = 23) a montré une diminution de -0,8 (-2,9%) entre les moyens (p = 0,70). Groupe oxydatif (n = 8) ont comparé les résultats des résultats du pré-test avec 28,6 ± 6,4 à 27,8 ± post-test a été diminué de -4,7 5,4 (-16%), bien que ne confirme pas la signification statistique (p <0,05) .Le glycolytique groupe (n = 15) ont eu des résultats plus faibles entre la participation des tests de pré-traitement de 27,7 ± 8,2% et ± 27,7 après la participation de 6,7%, soit une augmentation de 0,02 (0,05%) de la masse grasse corporelle (p = 1,0). Cette recherche a été observée à travers les données doivent augmenter les séances hebdomadaires de l'activité et également un meilleur contrôle d'intensité variable.

MOTS-CLÉS : Les Graisses, Lambaeróbica, Dermatoglyphies

UNA DISMINUCION DE LA GRASA CORPORAL EN LA PRÁCTICA DEL LAMBAERÓBICA DESTACADO POR LA DERMATOGLIFIA

RESUMEN

El método de lamberóbica ganó proporción nacional, debido a la expansión y la aceptación pública de la música bahiana y el surgimiento de varios grupos, que difunden el ritmo en todo Brasil. Hubo un aumento en el modo de demanda de adelgazamiento. Este estudio tuvo como objetivo analizar la reducción de la grasa corporal en la práctica de este deporte y los caracteriza por dermatoglifia. Los participantes fueron 24 sujetos femeninos, la lambaeróbica sólo practicando, con la participación de dos sesiones semanales de 60 minutos. Al final de la encuesta ascendieron hasta 35 sesiones. Para la evaluación de la grasa corporal se utilizó del protocolo de los pliegues cutáneos con la ecuación generalizada de la densidad corporal (Petroski, 1999). En cuanto a la conversión de densidad relativa a la grasa, se utilizó la ecuación de Siri (1961). Para la identificación de las características de los dermatoglifos, se utilizó el protocolo de Cummins y Midlo (1961, apud Fernandes y Ferreira Filho, 2008), lo que permite la división en dos grupos oxidativas y glucolíticas. Comparando la grasa relativa (% BF) la participación pre (n = 23) mostró una disminución de -0,8 (-2,9%) entre los medios (p = 0,70). Grupo oxidativo (n = 8), en comparación de los resultados de los resultados antes de la prueba con 28,6 ± 6,4 27,8 ± después de la prueba se redujo en -4.7 5.4 (-16%), aunque no confirmando la significación estadística (p <0,05). El grupo glucolítica (n = 15) tuvieron resultados más bajos entre la participación pruebas de pre-proceso de 27,7 ± 8,2% y después de la participación del 27,7 ± 6,7%, un aumento de 0,02 (0,05 %) de grasa corporal (p = 1,0). Se observó Esta investigación a través de los datos tienen que aumentar las sesiones semanales de la actividad y también un mayor control de intensidad variable.

PALABRAS CLAVE: La Grasa Corporal, Lambaeróbica, Dermatoglifos.

A DIMINUIÇÃO DA GORDURA CORPORAL EM PRATICANTES DE LAMBAERÓBICA CARACTERIZADA PELA DERMATOGLIFIA

RESUMO

A modalidade de lambaeróbica ganhou proporção nacional, devido à expansão e aceitação pública da música baiana e do surgimento de vários grupos, que difundiram o ritmo para todo o Brasil. Houve um aumento pela procura da modalidade para fins de emagrecimento. Este estudo teve como objetivo analisar a diminuição da gordura corporal em praticantes desta modalidade e caracteriza-las através da dermatoglifia. Participaram desse estudo 24 indivíduos do sexo feminino, praticantes apenas da lambaeróbica, sendo participantes de duas sessões semanais com duração de 60 minutos. Até o final da pesquisa totalizou-se 35 sessões. Para a avaliação da gordura corporal foi utilizado o protocolo de dobras cutâneas, com equação generalizada para densidade corporal (Petroski, 1999). Sendo para a conversão da densidade para a gordura relativa, utilizou-se a equação de Siri (1961). Para a identificação das características dermatoglíficas, foi utilizado o protocolo de Cummins & Midlo (1961, apud FERNANDES FILHO & FERREIRA, 2008), possibilitando a divisão em dois grupos oxidativos e glicolíticos. No comparativo entre a gordura relativa (%G) pré participação (n=23) houve um decréscimo de -0,8(-2,9%) entre as médias (p=0,70). O grupo oxidativo (n=8) comparados os resultados do pré-teste 28,6±6,4 com resultados pós-teste 27,8±5,4 ocorreu decréscimo de -4,7(-16%), embora não se confirmando significância estatística (p<0,05). O grupo glicolitico (n=15) obteve resultados inferiores entre o processo de testagem pré- participação 27,7±8,2% e pós-participação 27,7±6,7%, apresentando aumento de 0,02(0,05%) de gordura corporal (p=1,0). Com esta pesquisa foi observado através dos dados a necessidade de aumentar as sessões semanais da atividade bem como também um maior controle das variáveis intensidade.

PALAVRAS-CHAVE: Gordura corporal, Lambaeróbica, Dermatoglifia.