100 - ANALYSIS OF THE BODY COMPOSITION OF POLE DANCE WOMEN

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Abstract: This study had as the mean goal analyzes and compare the real effects of a Pole Dance training in the body composition of its performers, for six months they had two classes a week with one hour of training in each one, the evaluation was established with pre- and post-test through anthropometry, circumferences, skinfold thickness and bone diameter, all the research was conducted in Studio “Art Fitness” and significant changes p≤0,05 were found, there were the fractions of components, fat percentage, fat weight, the residual weight, bone weight and muscle weight, changes related to fat percentage, fat mass and muscle mass could be clearly seen. Explicit changes in averages, standard deviation and value of p = 0.05 for each collection used in the evaluation could be noted. Getting to the conclusion of the real health benefits that are possible by the training program of Pole Dance demonstrated through significant changes in body composition.

Keywords: Pole Dance, body composition, women

Introductory text

Nowadays people seek even more for a better quality of life, a prettier body or simply for a pleasure of doing a physical activity, because of media, needing in relation to health or friends´ invitation.

The society has been overloading the human being with lots of functions and needing's that made them more sedentary than active, giving origin to problems called modern or hypokinestheticdiseases.

All these daily charges cause body problems that before used to appear in a more remote period of life. The overweight, hypertension, diabetes and other related diseases are easily developed; causing another needing's to these individuals. The main question in this study is: What are the body composition indexes of women that practice pole dance?

Pole Dance is a complete exercise modality that can promote numerous complex movements as Olympic gymnastics, modern dance, ballet, free and combined movements. Performing static or dynamic movements and using the implement bar or outside of it. The Pole Dance practice provides strength gains, flexibility, strength and coordination, working a lot with upper limbs, lower back and abdominal (PARIZZI, 2008).

Body fat is essential for the physiological system, but when it is at very low levels become harmful to health because the physiological functioning requires construction of cell membranes, which are possible through the essential lipids, however tailstock so-called non-essential lipids triglycerides that are the villains to the onset of diseases related when the levels are high. They are also important to the human body; they are responsible for the thermal block and stored metabolic energy. Lipids perform the transport of fat-soluble vitamins that control reproductive system, puberty, menstrual cycle and nervous system. It is observed that people with low body fat composition because eating disorders have a greater predisposition to these disorders. The health risks are great whatever the parameters are low or high in fat. Health professionals should have understanding in the evaluation of total body composition and body fat distribution (HEYWARD, 2000, p. 3).

The methods of assessing body composition are increasingly present in the ratings for exercise, making it a very important tool to meet the growing and demanding audience (MATTAR, 1995).

Methods

This study is a bibliographic research, field, quantitative explanatory type. The population and research sample belongs to Art Studio Fitness located in Itaiopolis Street, 257, America, in the city of Joinville, Santa Catarina, and it was incorporated by 11 participants who practice the modality of Pole dance aged 18 to 42 years, female practitioners who practice twice a week in the morning and evening, always taught by trained professionals with higher education and graduate in Performing Arts and dance.

The research instrument was established by applying a test for anthropometric assessment in the form of pre- and post-test called Pollock 7 female folds (FERNANDES FILHO, 2003). There were also classes twice a week with an hour each one, morning and night, in a period of 6 months.

The test was performed in Studio Art Fitness, all the analysis closely followed the mentioned protocol, circumferences were collected, skinfold thickness and breadths thus possible to carry out the indirect double evaluation, allowing to get the measures of body composition of this women in this study; it was possible body splitting into four parts responsible for composing the total body mass, soon sought to identify the fat mass, residual mass, bone mass, muscle mass in addition to fat percentage.

Data collection was performed active, interactive and participatory manner between researchers and researched to establish during the process a clearer understanding of relevant aspects of the research.

Data and information were analyzed and interpreted according to the conceptual principles of the quantitative method and the data were, after collection, inserted into an Excel For Windows and data sheet later entered into the statistical program SPSS 16.0. It was used descriptive statistic with measures of central tendency (mean) in extent of dispersal (standard deviation). The data were tested for normality by the normality test of Shapiro-Wilk which allowed the use of the Student t test for paired data with significance level of 95% ($p < 0.05$).

Results Analysis

The practitioners who participated in the study recorded 11 women aged between 18 and 42, and the average was 29.73 ± 7.04 (min = 18 and max = 42) years. Among them 7 (63.63%) have higher education and graduation, 2 (18.18%) higher graduation and 2 (18.18%) high school. It was found that only 2 (18.18 %) are students and 9 (81.81%) work in the labor market as civil police, veterinary, businesswoman, medical pathologist, psychologist, environmental engineer, nurse, federal public servant and product designer. This survey depended fundamentally on the studio's owner collaboration and of course the students that practice the sport, showing responsibility, strong commitment and contribution in the training program and with their participation to make this survey possible.

Total body mass pretest showed an average of 126.3 ± 13.8 lb. (min. = 105.3lb. and max. = 155.4lb.). In the post-test average was 125.4 ± 12.7lb. (min.= 106.9 lb.and max = 156.5 lb.), it is noted that the results regarding the body weight had little changes; this occurs because the practitioners have followed the training program established, and control the proper food intake supervised by a nutritionist. When there is personal dissatisfaction, low self-esteem with body mass, especially in women can trigger inappropriate eating habits (BUTTOM et al 1997; TAYLOR et al 1986.).

The body fat percentage had presented a considerable reduction, it is observed that in the pre-test average was 21.5 ± 3.4% (min. = 15.8% and max. = 27.7%). Soon the result obtained with a pole dance training program, followed by the study population showed that the average of 16.2 ± 2.9% (min = 12.1% emax. = 20.3%) with significance for p ≤ 0,01.The increased body fat is a major cause of deaths worldwide, this health problem has reached people of all ages developing diseases related to fat causing numerous premature deaths Nahas (2001). Exercise is key to burning body fat that both the training resistance or aerobics assist in energy use, increasing the amount of oxidative enzymes (SIMONEAU, 1995). Another sum of varying significance for health is the mass of body fat, the primary evaluation showed an average of 27.1 ± 4.8 lb. (min. = 18.7 lb. and max. = 37.9 lb.). In the final evaluation, the data were on average 20.5 ± 4.1 lb. (min. = 13.4 lb. and max. = 26.4lb.) with significant value for p≤0,01. Bone mass was found to be unchanged with the results of the evaluation score before and after that the results remained unchanged with an average of 20.7 ± 1.9 lb. (min. = 17.4 and max = 31,7 lb.). This is justified by human physiological reason, the body as an adult does not change in their bone dimensions, only children and young people occur the fact that structural growth, the age of the bone development is related to genetic, hormonal, biochemical, pharmacological factors, nutritional and economic partners (MARCONDES, 1980) and growth occurs simultaneously for several structural monitoring for both male and female, bond chronological age and pubertal growth (MORAES et al. (1998) .The residual mass was also vehicle research and data were an average of 26.4 ± 2.8 lb. (min. = 22 lb. and max. = 32.4 lb.) in the post-test identified himself average of 26.2 ± 2.6 lb. (min. = 22,2 lb. and max. = 32.6 lb.). It can be observed that had a slight change in the results that is justified to be associated with total body mass.

Another very important factor in this study refers to muscle mass that presented in the pre-test, an average of 52 ± 7.7 lb. (min. = 43.65 lb. and max. = 67.2 lb.). In the final assessment the average was 58.2 ± 7.0 lb. (min. = 50.2 lb. and max. = 75.1 lb.). This value was reinforced by the Student t test at significance level for p ≤ 0.01. Muscle mass is of fundamental importance for the survival of human beings, from the simplest tasks such as walking, lifting, jumping even in times of danger, the body has muscle skeletal capacity of voluntary reaction generating strength, power, agility to adverse situations, according to Hall (2001); Macintosh et al. (1987); Vleeminget al. (1995) and the ability to balance and body posture is only possible because of the muscles involved in movements of flexion, extension and stability of the pelvic and lumbar waist are the muscles in those regions that support the support loads, they are oblique's, trans versus abdomen, multifidus, erector spinal, rectus abdominals and iliopsoas.

Explicit results referred to this study can also be seen in Table 1 with the fractionation of body components mentioned herein analyzing pre- and post-test, and intervention training for anaerobic exercises. The weathered work is possessed of great influence on basal metabolism, raising significant daily calorie expenditure (MACARDLER, 2003). However, we notice the benefits achieved by reducing the fat percentage, fat mass, and increased muscle mass shown in that table.

Table 1 Pre and post test results

Variables	Pre test	Post test	Δ(%)	
		X̄ ± DP		
% Fat	21,5 ± 3,4	16,2 ± 2,9	-5,26 (-24%)	0,01
Fat mass	12,3 ± 2,2	9,3 ± 1,9	-3,04 (-24%)	0,01
Residual mass	12,0 ± 1,3	11,9 ± 1,2	-0,08 (-0,007%)	0,43
Bone mass	9,4 ± 0,9	9,4 ± 0,9	- (-)	-
Muscle mass	23,6 ± 3,5	26,4 ± 3,2	2,8 (1,12%)	0,01

Source: author´s own (2015)

The results collected for the survey of these statistics in the analysis and discussion of the study, allowed the survey of available data on body composition, and it was only possible to reach these numbers through physical evaluation that included collections of skinfolds, circumferences, breadths beyond the age, height and total body mass, we can see in picture number 2 with the information collected pre- and post-test.

Table 2 Pre and post test results

Variables	Pre Test	Post Test	Δ(%)	p≤0,05
	X̄ ± DP	X̄ ± DP		
Fold (mm)				
triceps	15,8 ± 3,4	10,7 ± 3,8	-5,14(-0,32%)	0,01
subscapularis	12,9 ± 3,5	9,0 ± 2,7	-3,91(-0,30%)	0,01
axillary	9,9 ± 2,7	6,9 ± 2,0	-3,00(-0,30%)	0,01
suprailiac	17,1 ± 5,0	11,8 ± 4,6	-5,36(-0,31%)	0,01
abdominal	15,5 ± 3,5	11,3 ± 3,8	-4,18(-0,27%)	0,01
thigh	24,0 ± 4,5	18,9 ± 3,0	-5,18(-0,22%)	0,01
breastplate	10,6 ± 4,7	5,4 ± 2,2	-5,18(-0,49%)	0,01
Perimeters (cm)				
a tension arm	28,9 ± 1,7	29,1 ± 1,7	0,27(0,01%)	-
leg	34,8 ± 1,9	34,3 ± 1,9	-0,45(-0,01%)	0,07
Diameter (cm)				
biestiloidal	6,2 ± 0,2	6,2 ± 0,2	-	-
bicondylar humeral	5,2 ± 0,2	5,2 ± 0,2	-	-
bicondylar femoral	8,8 ± 0,4	8,8 ± 0,4	-	-

Source: author´s own (2015)

Conclusion

This study included 11 female participants, and all attended regular classes at studio Art Fitness, enabling the study related to pole dance a very old method, but new in Brazil and gaining significant growth in studios and gyms.

By the data presented and analyzed, it is observed that there were significant changes related to body composition of

participants and all obtained individual improvements contributing to the final result. In relation to total body mass there is no significant change with this variable, this is because some participants have decreased their body mass while others promoting increased balance, but with fat mass reduction and muscle mass gain.

The residual mass is anything but fat mass, bone and muscle, then this variable undergoes few changes, it ends up happening with bone mass; however remained the same result in both initial and final assessment by not showing bone growth in adulthood only in children and young people is bone structural changes.

The variable muscle obtained significances with a gain of 6.1 lb. providing better physiological conditions for practicing both their physical exercises and performing daily activities. Maintaining or increasing total body mass is not to say that the individual has not reached goals, so that it can be said to decrease fat and gain muscle mass only through physical evaluation was which showed the results of this study little variation of the total body mass, yet significant body composition results in decreasing fat mass and increasing muscle mass.

Due to the variables related to body composition, fat percentage shows with significant reductions with a final total reduction of -5.26% fat. These values was considered satisfactory for practitioners of the sport, as well as raise the self-esteem of practitioners favors and physiological functioning decreasing risks of diseases associated with health, that is, brings a better quality of life.

Through the results and arguments presented here concluded the real health benefits, how important was the training program established for the pole dance practitioners. We suggest further research with the study variables here presented, or even other variables not mentioned in the survey.

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ANALYSIS OF THE BODY COMPOSITION OF POLE DANCE WOMEN

Abstract:

This study had as the mean goal analyzes and compare the real effects of a Pole Dance training in the body

composition of its performers, for six months they had two classes a week with one hour of training in each one, the evaluation was established with pre- and post-test through anthropometry, circumferences, skinfold thickness and bone diameter, all the research was conducted in Studio “Art Fitness” and significant changes p≤0,05 were found, there were the fractions of components, fat percentage, fat weight, the residual weight, bone weight and muscle weight, changes related to fat percentage, fat mass and muscle mass could be clearly seen. Explicit changes in averages, standard deviation and value of p = 0.05 for each collection used in the evaluation could be noted. Getting to the conclusion of the real health benefits that are possible by the training program of Pole Dance demonstrated through significant changes in body composition.

Keywords: Pole Dance, body composition, women

ANALYSE DE LA COMPOSITION DU CORPS PRATICIENS DES FEMMES POLE DANCE

Résumé: Cette étude visait à analyser et comparer, dont les effets réels de la formationle mode Pole Dance par rapport à la composition du corps des praticiens, pendant 6 mois les classes étaient avec une durée d'une heure par la section d'entraînement souvent deux cours hebdomadaires, l'évaluation a été établie avec pré et post-test, par anthropométrie, circonférences, épaisseur du pli cutané et le diamètre de l'os, toute la recherche a été menée dans le studio ArtFittnes, Il a été constaté des modifications importantes p≤0,05, il y avait le fractionnement des composants, pourcentage de graisse corporelle, poids de matières grasses, poids résiduelle, poids de l'os et du poids du muscle, on peut voir clairement liée à la variation en pourcentage de graisse, la masse grasse et la masse musculaire. Il est à noterque les changements explicites en moyenne écart type et la valeur p≤0,05 pour chaque recueillir utilisés dans l'évaluation. En arrivant à l'achèvement des prestations de santé réelles rendues possibles par le programme de formation du mode Pole Dance par des changements importants dans la composition corporelle

Mots-clés: Pole Dance, la composition corporelle, Femmes

ANÁLISIS DE LA COMPOSICIÓN CORPORAL DE LAS MUJERES PRACTICANTES DE POLE DANCE

Resumen: Este estudio tuvo como objetivo analizar y comparar cuales son los efectos reales del entrenamiento de la modalidad de Pole Dance en relación a la composición corporal de las practicantes. Durante seis meses fueron ministradas clases con duración de una hora por una sección de entrenamiento con frecuencia de dos clases semanales, la evaluación se estableció con una prueba antes y una después a través de la antropometría, circunferencias, espesor del pliegue cutáneo y el diámetro del hueso. Toda la encuesta se llevó a cabo en Studio ArtFittnes, y se constató cambios significativos p≤0,05, hubo el fraccionamiento de los componentes, porcentaje de grasa corporal, peso de la grasa, el peso residual, peso del hueso y el peso muscular, se puede ver claramente los cambios relacionados al porcentaje de grasa corporal, masa grasa y la masa muscular. Cabe destacar los cambios explícitos en los promedios, desviación estándar y el valor de p≤0,05 para cada colecta utiliza en la evaluación. Así se llega a la conclusión de los reales beneficios a la salud posibilitados por el programa de formación de la modalidad de danza Pole Dance a través de cambios significativos en la composición corporal.

Palabras clave: Pole Dance, Composición corporal, Mujeres

ANÁLISE DA COMPOSIÇÃO CORPORAL DE MULHERES PRATICANTES DE POLE DANCE

Resumo: O presente estudo teve como objetivo principal analisar e comparar, quais os reais efeitos do treinamento da modalidade de Pole Dance em relação a composição corporal das praticantes, durante 6 meses foram ministradas aulas com duração de uma hora por seção de treino com frequência de duas aulas semanais, a avaliação foi estabelecida com pré e pós-teste, através de antropometria, circunferências, dobras cutâneas e diâmetro ósseo, toda a pesquisa foi realizada no Studio ArtFittnes, se constatou alterações significativas p≤0,05, houve o fracionamento dos componentes, percentual de gordura, peso gordo, peso residual, peso ósseo e peso muscular, pode-se observar com clareza alterações referente ao percentual de gordura, massa gorda e massa muscular. Nota-se as modificações explicitas em médias, desvio padrão e valor de p≤0,05 para cada coleta empregada na avaliação. Chegando à conclusão dos reais benefícios para a saúde possibilitados pelo programa de treinamento da modalidade Pole Dance através das alterações significantes da composição corporal.

Palavras chaves: Pole Dance, composição corporal, Mulheres