

8 - COMPARATIVE STUDY OF BODY COMPOSITION AND LEVEL OF PHYSICAL ACTIVITY IN ADULTS WITH INTELLECTUAL DISABILITIES.

ANDRÉ LUÍS NORMANTON BELTRAME
Faculdade Anahnguera Brasília-DF, Brasil
andrelbeltrame@hotmail.com

INTRODUCTION

One can not deny the importance of technology and computing to society, providing comfort, safety and speed in cases that would not happen without them. Yet studies indicate that this has contributed to a greater number of active people, which has greatly increased the prevalence of overweight and obesity among the population (1,2,3). Physical activity is recognized as something that can cause changes in body composition and lean body mass, but dependent on the amount and duration of activity (4). The population with intellectual deficit (DI) requires data to establish correlations between physical activity and body composition.

Excess body fat has a direct relationship with some conditions harmful to health as a higher incidence of cardiovascular disease, hypertension, diabetes, degenerative arthritis, kidney disease, lower organic strength and postural problems influencing a worse quality of life. Surveys of the World Health Organization suggest that physical inactivity alone accounts annually for approximately two million deaths worldwide. Physical inactivity is increasing in an epidemic way, directly reflected in increased rates of morbidity and mortality from chronic degenerative diseases (5).

A learning disability is a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior. This disability originates before the age of 18 years (6), has a prevalence of approximately 1% (7), with up to 2% of school age (8). In Brazil, about 1.6% of the population has this condition according to the IBGE (9).

According to the literature a good level of fitness can bring many benefits to the health of an individual, and to prevent hypokinetic diseases, which are related to sedentary lifestyle (3). Physical activity can cause significant changes in body composition and lean body mass and thus an important factor in control of overweight / obesity mainly because, although the etiology of obesity is multifactorial, the main pathophysiological process of weight gain is in the energy balance between calories burned and consumed. According to IBGE one in every 10 adults is considered obese with a tendency to increase this proportion. Studies show low levels of physical activity of people with ID when compared with individuals without ID, little adherence to physical activity and very high rates of physical inactivity and related diseases are common cause that some risk factors and health add up to functional decline with age (10,11,12,14,15).

Therefore, the objective was to compare body composition and physical activity levels in adults athletes and nonathletes with ID.

METHODOLOGY

The study was voluntary and done at pre determined, after accept a term of informed consent for participants. The non-participation in any of the steps of measuring data was a criterion for exclusion from the study.

This study is characterized as cross The selected sample of 16 young adult male, mean age 26.5 + -2.10, and 8 that only physical activity at school (NA) and 8 participants (A) of competition at least 2 years, all participants in races of 5 and 10 kilometers in the city of Brasilia. Body composition was evaluated BMI, WHR and percentage of fat (% BF) was measured by skinfold caliper (Cescorf) 7 folds in the second protocol Pollock: subscapular, triceps, pectoral, axillary, abdominal and femoral medium. The level of physical activity by questionnaire self-administered IPAQ.

The body mass index (BMI) is a simple way to determine whether the body mass of a person is within the recommended. According to the WHO recommended is the weight divided by height squared does not exceed 24.9. Although not suitable for athletes, because muscle mass may contribute to bias, on the other hand has good correlation with more precise measures of body fat as hydrostatic weighing technique or skinfold measurements ($r = 0.70$).

Waist-hip ratio (WHR) determines pattern of obesity (android-central and peripheral-gynecoid). The disease risk is higher for people who accumulate fat in the central region (android type). Measure the waist circumference by the hip at the point of greatest size, disease risk is greater when the $WHR > 0.95$ for men. As for the collection of data relating to levels of physical activity we used the international physical activity questionnaire (IPAQ long form 8). This instrument, with good stability and acceptable population for use with young adults and middle age, allows to estimate the amount of physical activity in four contexts (work, transportation, leisure and domestic activities) as a very active, active, insufficiently active (18). Descriptive statistics (mean and standard deviation) was used and the Student t test. The significance level was set at $p < \text{or equal } 0.05$.

RESULTS

Table1: Data on age groups

	Total N=16(%)	Não athlets (NA) (%) N=8	Athlets (A) (%) N=8
Age (years)	26.5+- 2.10(20,1-28,2)	23,4(+ -3,1)	26,6(+ -1,6)
Groups	16 (100)	8(50)	8(50)

Table 2: Classification of habitual physical activity level . .

Physical Activity / Groups	(NA)n=8 %	(A) n=8 %	p
Very active	2(25)	5**(50)	<0,05
Activity	3(37.5)	3(37.5)	>0,05
Insufficiently active	3(37.5)	0**	<0,05

Table 3: Body composition of the groups

Comp. Corporal/grupos	(NA) n=8 Mean(SD)	(A) n=8 Mean(SD)	p
BMI	24(3.4)**	23(1.1)	<0,05*
WHR	0,9 (0,3)**	0,7(0,1)	<0,05*
%G	17(4)**	15(2)	<0,05*

The table showed a larger standard deviation for the group of non-athletes. Table 2 already showed a significant difference to those considered very active (.05), following criteria of type or intensity (moderate or vigorous activity) weekly frequency (> or equal to 3 and 5 days per week) and duration (> or equal 20 and 30 minutes per session) and insufficiently active (do not reach any of the criteria recommended).

Body composition assessments followed a similar trend (Table 3). The group (NA) had a standard deviation above the group (A). The variables BMI, WHR and % BF had no statistically significant differences (<.05)

DISCUSSION

It is worth noting that there were differences between groups in relation to the same level of physical activity as the group of athletes who reported more vigorous physical activity performed 3-5 times week and 20 to 30 minutes per session, involved in the training itself, and not classified as active athletes consisted of walking and moderate activity on 5 or more times a week. A significant trend of BMI, perhaps another aspect to this study, obtained a follow-up of the following variables WHR and % BF which can be a positive point of the study. Since this population has been assessed with high levels of sedentary lifestyle requires more monitoring and intervention on habitual physical activity levels (13, 14). Some studies have shown positive results in levels of physical activity and risk factors for obesity (4, 10, 12), but note that lack of monitoring and technical review by professional, appropriate for this population because physical activity standard is achieved through positive lifestyles where the community parents and teachers in the classroom can contribute to this population group by making them more freedom of movements, at home, transportation, etc. (11).

Although a study with a small number of participants and a high standard deviation for one of the groups that may have been a bias to the study, observed that levels of moderate to vigorous physical activity are related to body fat corresponding rates the recommended rates in both groups.

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Address: SQS 105 BL: G ap: 202

Brasília-DF

andrelbeltrame@hotmail.com

COMPARATIVE STUDY OF BODY COMPOSITION AND LEVEL OF PHYSICAL ACTIVITY IN ADULTS WITH INTELLECTUAL DISABILITIES.

ABSTRACT:

Introduction: Excess body fat has a direct relationship with some conditions harmful to health. According to the literature a good level of fitness can bring many benefits to the health of an individual, and to prevent hypokinetic diseases, which are related to sedentary lifestyle. The population with intellectual deficit (DI) requires data to establish these correlations. Objective: To compare body composition and physical activity levels in adults athletes and nonathletes with ID. Method: The selected sample of 16 young adult male, mean age 26.5 + -2.10, and 8 that only physical activity at school (I) and 8 participants (P) of competition at least two years, all Race participants of 5 and 10 kilometers in the city of Brasília. Body composition was evaluated BMI, WHR and percentage of fat (% BF) was measured by skinfold caliper (Cescorf) 7 folds in the second protocol Pollock: subscapular, triceps, pectoral, axillary, abdominal and femoral medium. The level of physical activity by questionnaire self-administered IPAQ. Descriptive statistics (mean and standard deviation) was used and the t test studente to discuss the results. The significance level was set at $p < 0.05$. Results: We observed that several parameters are different from the NA group as for group A and fat percentage reached values (0.05 and .04) respectively. Conclusion: Although a study with a small number of participants and a high standard deviation for one of the groups observed that levels of moderate to vigorous physical activity are related to body fat rates corresponding to rates recommended in both groups.

KEYWORDS: Body composition, physical activity, intellectual deficiency

ETUDE COMPAREE DE LA COMPOSITION CORPORELLE ET DE L'ACTIVITÉ PHYSIQUE CHEZ LES ADULTES HANDICAPÉES MENTALES.

RÉSUMÉ:

Introduction: excès de gras corporel a une relation directe avec des conditions nocives pour la santé. Selon la littérature un bon niveau de forme physique peut apporter de nombreux bénéfices pour la santé d'un individu, et pour prévenir les maladies hypokinétique, qui sont liés au mode de vie sédentaire. La population ayant un déficit intellectuel (DI) a besoin de données pour établir ces corrélations. Objectif: comparer la composition corporelle et l'activité physique chez les athlètes adultes et non-sportifs avec ID. Méthode: L'échantillon de 16 hommes adultes jeunes, âge moyen 26,5 + -2,10, et 8, que seulement l'activité physique à l'école (I) et 8 participants (P) de la concurrence au moins deux ans, tous les participants des courses de 5 et 10 km dans la ville de Brasília. La composition corporelle a été évaluée IMC, le RTH et le pourcentage de matières grasses (% MG) a été mesurée par pli cutané étrier (Cescorf) 7 plis dans le deuxième protocole Pollock: sous-scapulaire, triceps, pectoraux, axillaires, abdominaux et moyennes fémorale. Le niveau d'activité physique par questionnaire auto-administré IPAQ. Les statistiques descriptives (moyenne et écart-type) a été utilisé et le Studente test t pour discuter des résultats. Le niveau de signification a été fixé à $p < 0,05$. Résultats: Nous avons observé que plusieurs paramètres sont différents dans le groupe NA que pour le groupe A et de la graisse des valeurs en pourcentage atteint (0,05 et 0,04) respectivement. Conclusion: Même si une étude avec un petit nombre de participants et un écart-type élevé pour l'un des groupes a fait observer que les niveaux d'activité modérée à vigoureuse physique sont liées au corps gras taux correspondant au taux recommandé dans les deux groupes.

MOTS-CLÉS: La composition corporelle, activité physique, intellectuelle déficiencia

ESTUDIO COMPARATIVO DE COMPOSICIÓN CORPORAL Y NIVEL DE ACTIVIDAD FÍSICA EN ADULTOS CON DISCAPACIDAD INTELECTUAL.

RESUMEN:

Introducción: El exceso de grasa corporal tiene una relación directa con algunas condiciones perjudiciales para la salud. De acuerdo a la literatura un buen nivel de condición física puede traer muchos beneficios para la salud de un individuo, y para prevenir las enfermedades hipocinético, que están relacionados con el estilo de vida sedentario. La población tiene bajos intelectual (DI) se carece de datos para establecer estas correlaciones. Objetivo: Comparar la composición corporal y los niveles de actividad física en los atletas adultos y no deportistas, con acreditación. Método: La muestra seleccionada de 16 varones adultos jóvenes, edad media 26.5 + -2.10, y 8 que sólo la actividad física en la escuela (I) y 8 participantes (P) de la competencia por lo menos dos años, todos los Carrera de los participantes de kilómetros 5 y 10 en la ciudad de Brasília. La composición corporal se evaluó el IMC, ICC y porcentaje de grasa (% GC) se midió pliegues cutáneos pinza (Cescorf) 7 pliegues en el segundo protocolo de Pollock: subescapular, triceps, pectorales, axilar, abdominal y medio del fémur. El nivel de actividad física mediante un cuestionario auto-administrado IPAQ. estadística descriptiva (media y desviación estándar) fue utilizada y la studente prueba de la t para discutir los resultados. El nivel de significación se fijó en $p < 0,05$. Resultados: Se observó que varios parámetros son diferentes entre el grupo de NA como para el grupo A y los valores de porcentaje de grasa alcanzado (0,05 y 0,04), respectivamente. Conclusión: A pesar de un estudio con un pequeño número de participantes y una desviación estándar de alta para uno de los grupos observaron que los niveles de actividad física moderada a vigorosa se relacionan con los tipos de grasa del cuerpo que corresponde a las proporciones recomendadas en ambos grupos.

PALABRAS CLAVE: La composición corporal, actividad física, intelectual deficiencia

ESTUDO COMPARATIVO DE COMPOSIÇÃO CORPORAL E NÍVEIS DE ATIVIDADE FÍSICA EM ADULTOS COM DEFICIÊNCIA INTELLECTUAL.**RESUMO:**

Introdução: O excesso de gordura corporal possui relação direta com algumas condições maléficas à saúde. Segundo a literatura um bom nível de aptidão física pode trazer uma série de benefícios para a saúde de um indivíduo, além de prevenir doenças hipocinéticas, as quais estão relacionadas ao estilo de vida sedentário. A população com déficit intelectual (DI) carece de dados que estabeleçam estas correlações. Objetivo: Comparar a composição corporal e níveis de atividade física em adultos atletas e não atletas com DI. Método: A amostra selecionada foi de 16 adultos jovens do sexo masculino, com idade média de 26.5 \pm 2.10, sendo 8 que só praticavam atividade física na escola (I) e 8 participantes (P) de competições a pelo menos 2 anos, todos participantes de corridas de 5 e 10 quilômetros na cidade de Brasília. A composição corporal avaliou IMC, RCQ e o percentual de Gordura (%G) foi medido através do plicômetro (Cescorf) nas 7 dobras segundo protocolo de Pollock: Subscapular, tríceps, peitoral, axilar média, supra ilíaca, abdominal e femoral médio. O nível de atividade física através do questionário auto administrado IPAQ. A estatística descritiva (média e desvio padrão) foi utilizada e o teste de t studente para discussão dos dados. O nível de significância estabelecido foi de $p < 0,05$. Resultados: Observamos que, vários parâmetros possuem diferença do grupo NA para o grupo A como e o percentual de gordura alcançaram valores de (0.05 e .04) respectivamente. Conclusão: Apesar de ser um estudo com um número reduzido de participantes e um desvio padrão elevado para um dos grupos observa-se que níveis de atividade física moderadas a vigorosas possuem relação com taxas de gordura corporal correspondente a taxas recomendadas nos grupos estudados.

PALAVRAS CHAVE: Composição corporal, atividade física, deficiência intelectual