60 - THE ACUTE EFFECT OF MENARCA IN PERCENTAGE OF FAT

FREDERICO FONTOURA; PATRÍCIA MOURA DEMARIA; SAMÁRIA ALI CADER; ESTÉLIO H. M. DANTAS
Laboratório de Biociências da Motricidade Humana - Labimh - Universidade Castelo Branco RJ
frederico@tridente.org

INTRODUCTION

Juvenile Obesity is a problem that is getting worse in recent years. The knowledge of the percentage of body fat and the satisfaction with body weight, are essential information for the educational and care with the health of school and pre-pubertal and pubertal.

The emergence of first menstruation and age of menarche, although not always relate with the ovulate normal cycle, it is considered a practical indicator of sexual maturity of women. Pagliani to study 39 girls along in Turin for 5 years, was the first to conclude that the growth-up of adolescents was related to menarche (Petroski, 1999).

In Brazil, the age of menarche is widely used as an indicator of maturation of biological sexual characteristics, it is seen that its determination is very useful for the professionals of Physical Education, as the needs of culture body of the movement are different periods in pre-puberty and puberty (Petroski, 1999). The body of the young appears without skill and with a lack of proportionality in the process of adapting the new situation of development (Neira, 2000).

Data from Health Organization (WHO) reported that of the 35 million Brazilians adolescents (10-19 years), 30% are located with obesity, representing a public health problem. It is consensus that obesity in 95% of cases occur on the basis of a balance between spending and the calorie intake (Denadai, 1999) and the understanding of these data are of vital importance for the understanding of the work being done in epidemiological control of obesity (Meirelles, 2004).

The energy expenditure is defined as being equal to the basal metabolic rate combined exercise and diet termal gênese of induction is due to the processes of digestion, absorption and assimilation of nutrients. In turn the basal metabolic rate has a direct connection with the age, sex, amount of body mass, heart rate, plasma levels of insulin and, with the percentage of lean mass (Francischi, 2001). Thus understood to be necessary if understand this important event that occurs in training women, the menarche, would acute significant effect on levels of fat mass.

This article aims to observe the acute effect of menarche on the percentage of fat in school of Cabo Frio, Rio de Janeiro.

METHODOLOGY

This research characterizes as a descriptive study as a criterion for inclusion, that the subject should be students of the school female gender of the same series school was then collected a sample formed by schools belonging to the municipality of Cabo Frio 144 children with female gender, a Omron device was used to mark bioimpedance for the measurement of percentage of body fat, estadiômeter produced by Sanny and a scale for weighing Filizola calibrated before the event.

Is observed the descriptive statistic of variables, percentage of fat, age and weight, in function of the occurrence of menarche. For the analysis of normality was used Shapiro - Wilk and for the comparison between groups used is the independent t-test.

The participants of this research consenting electronically and procedures have been implemented within the ethical standards laid down in the Declaration of Helsinki of 1975. The study took his project before the search and approved by the Committee of Ethics in Research involving Human Beings the University Castelo Branco, RJ.

RESULTS

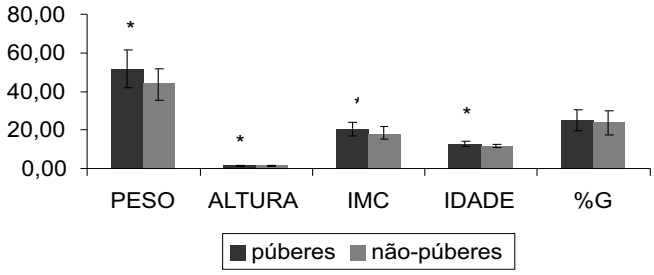
The data descriptive of the sample and the analysis of its curve of normality, and Shapiro - Wilk, are displayed in table 1. Table 1: descriptive inferêncial statistics of Shapiro - Wilk of the sample

	N	grupo	média	erro padrão	mediana	desvio padrão	CV%	SW
PESO	107	púberes	51,93	0,97	50,00	10,02	19,30	**0,000**
	37	não-púberes	43,68	1,39	43,00	8,43	19,31	0,128
ALTURA	107	púberes	1,59	0,01	1,58	0,07	4,15	0,521
	37	não-púberes	1,54	0,01	1,54	0,08	5,41	0,836
IMC	107	púberes	20,50	0,34	19,90	3,49	17,01	**0,000**
	37	não-púberes	18,44	0,54	18,00	3,27	17,73	**0,000**
IDADE	107	púberes	13,02	0,12	13,00	1,25	9,61	**0,000**
	37	não-púberes	11,84	0,11	12,00	0,69	5,81	**0,000**
%G	107	púberes	25,15	0,53	24,60	5,48	21,77	0,451
	37	não-púberes	23,84	1,02	23,30	6,21	26,04	0,855

Analyzing the Table 1, it was observed that the sample submitted is homogenous, with the exception of variables: weight (pubertal); BMI (non-pubertal and pubertal) and old (non-pubertal and pubertal).

Chart 1 shows a comparison of the variables between groups through independent T-test.

Figure 1: Comparison Inter-groups.



*p<0,05

IMC: body mass index; % G: percentage of fat

Noting that the chart-1, the results showed significant differences ($p < 0.05$) between groups in the variables: weight, height, BMI and age.

DISCUSSION

In evaluating the data and in particular the weight, she is that it considerably increases the group's pre-puberty for puberty, from 43.68 kg (± 8.43 kg) to 51.99 kg (10.01 ± Kg) with a change of 8.31 kg on average that reaches about 19% of weight gain, possibly as a sign of preparation of the body for the rapid growth with increases in height and change in body size occurring at the time the menarche, (Mattos and Neira, 2000), (Castillo, 2000). Percept then that there was a significant difference between the height of the pre-púbere group and the group púbere in the analysis of the data, although there is no uniformity among the samples in each group according to the Shapiro - Wilk test.

The growth-up in puberty which begins around 9.5 years for girls and that extends to 14.5 years includes the time of menarche that occurs on average around 12.6 years, which was the average in the study it was developed (Amâncio, 2000). This weight increase, in part, due to increased fat mass that rose from 23.84% (± 6.20), the group pre-púbere to 25.16% (± 5.05) in pubertal children, representing a increase of 5.2%, but it is assumed on the basis of the data observed that other factors such as increases in bone and muscle may have influenced the increase of weight.

The index of Body Mass (BMI) measures the degree of obesity as a potential factor for the imbalance of the body providing onset of disease, the more out of the pattern set is the BMI greater the potential for comorbidities (Guedes, 2003). Studies indicate that there is no correlation with BMI and the increased stature of post-menarche, but girls with the highest index of BMI tend to mature faster (Saito, 2005). By observing the distribution of BMI, see that the distribution is not "gausiana" tending to accumulate values closer to a BMI = 15 in both cases motivating a rise of the average in terms of "outliers", and that in the post - pubertal the "outlier" is more distant from "0".

This provision may externar the fact that while the average BMI in the pubertal be 20.561 (± 3.49) and the pre-pubertal be 18.441 (± 3.27) which is considered healthy, these averages can still be smaller if desconsiderados the "outliers" indicating that the group in general has a profile of percentage of body fat mass, considered good.

Although the samples were collected in the same school series the average age of pubertal 12.95 (± 1.15) exceeded that of pre-pubertal 11.84 (± 0.688) in about a year which denotes the age of this transition in fact occurred in this group of Cabo Frio, noting that this

occurrence is within the standards accepted internationally (Petroski, 1999) (Castilho, 2000).

CONCLUSION

To observe the effect of acute menarche on the percentage of fat in school network Hall of Cabo Frio in the state of Rio de Janeiro realize that the percentage of fat has not produced significant differences between groups having demonstrated a homogeneous distribution of the samples that you can also indicate a uniformity in the energy balance refers to the conclusion that diet and physical maintain the same balance before and after menarche and the percentage of fat. Studies point to the fact that children, has developed profiles of physical activity below the ideal, and every day, more if establish habits hipocinéticos, causing the trend is a natural growth of BMI (Jenovesi, 2002) but in the schools surveyed , which is not realize is a homogeneous distribution of BMI but with an average within the normal parameters, which may denote a correct orientation for intake and the amount of exercise, factors that influence the energy balance, but still in need of better distribution of stimuli in healthy habits.

The age also seen in samples with a spectrum rather homogenous, shows that despite all the students are in the same series, are in ages and in different moments of maturation and thus need didactic and methodological different attitudes about the conduct of classes to improve the profile.

But it is understood the need to conduct a longitudinal study, because during the process of quickly growth-up, accumulations of fat are frequently to provide these stages of growth (Denadai, 1999) although they may not be directly related to the event of menarche.

It is suggested as a complement to this study, a study on the inventory of practice or not practice of regular physical activity is developed in this group to determine where is the reason for the relative success that occurs in the maintenance of a BMI and percentage of body fat within the standards of reference.

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Pça da Bandeira, 362 - Cabo Frio - RJ
CEP 28.906-320 - Tel 22-26451705
frederico@tridente.tur.br

THE ACUTE EFFECT OF MENARCA IN PERCENTAGE OF FAT
ABSTRACT

This article addresses an issue that has been worsening in recent years, young obesity. The knowledge of the percentage of body fat, satisfaction with body weight, are essential information for the educational and care with the health of school for pre - puberty and puberty adolescents.

This study aims to present the percentage of fat in adolescence and their profiles in the pre-puberty and puberty bounded by the age of menarche, in the school of Cabo Frio, Rio de Janeiro. It is characterized as a descriptive study, the sample comprised of 144 schools of gender female, belonging to the municipality of Cabo Frio.

To observe the effect of acute menarche on the percentage of fat was perceived that the percentage of fat has not produced significant differences between groups having demonstrated a homogeneous distribution of the samples which may indicate a uniformity also in the energy balance refers to the conclusion that habits food and physical maintain the same balance before and after menarche and the percentage of fat.

KEYWORDS: Percent of fat, puberty, menarche

L'EFFET DE MENARCA AIGUË EN POURCENTAGE DE MATIÈRE GRASSE
RÉSUMÉ

Cet article traite d'un problème qui s'est aggravé au cours des dernières années, les jeunes obésité. La connaissance du pourcentage de graisse corporelle, la satisfaction avec le poids corporel, sont des informations essentielles pour l'éducation et les soins à la santé de l'école de la puberté et avant la puberté les adolescents.

Cette étude a pour but de présenter le pourcentage de matière grasse dans l'adolescence et leurs profils dans la puberté et avant la puberté est délimitée par l'âge de la ménarche, à l'école de Cabo Frio, à Rio de Janeiro. Elle est caractérisée comme une étude descriptive, l'échantillon composé de 144 écoles de sexe féminin, appartenant à la municipalité de Cabo Frio.

Pour observer l'effet de la ménarche aiguë sur le pourcentage de matière grasse a été perçu que le pourcentage de matière grasse n'a pas abouti à des différences significatives entre les groupes ayant fait preuve d'une répartition homogène des échantillons qui pourrait indiquer une uniformité aussi dans le bilan énergétique se réfère à la conclusion que les habitudes Alimentaires et physiques maintenir le même équilibre avant et après la ménarche et le pourcentage de graisse.

MOTS CLÉS: pourcentage de matière grasse, la puberté, la ménarche

EL EFECTO AGUDO DE LA MENARCA EN EL PORCENTAJE DE GRASA
RESUMEN

Este artículo trata de un tema que ha ido empeorando en los últimos años, la obesidad en los jóvenes. El conocimiento del porcentaje de grasa corporal, la satisfacción con el peso corporal, son datos esenciales para la educación y el cuidado de la salud de la escuela antes de la pubertad la pubertad y la adolescencia.

Este estudio tiene por objeto presentar el porcentaje de grasa en la adolescencia y sus perfiles en la pubertad antes de la pubertad y delimitada por la edad de la menarquia, en el centro de Cabo Frio, Río de Janeiro. Se caracteriza como un estudio descriptivo, la muestra compuesta de 144 escuelas del género femenino, perteneciente al municipio de Cabo Frio.

Para observar el efecto de la menarquia aguda en el porcentaje de grasa se percibe que el porcentaje de materia grasa no ha producido diferencias significativas entre los grupos han demostrado una distribución homogénea de las muestras que pueden indicar una uniformidad también en el balance de energía se refiere a la conclusión de que los hábitos La alimentación y la física mantener el mismo equilibrio antes y después de la menarquia, y el porcentaje de grasa.
PALABRAS CLAVE: Porcentaje de grasa, la pubertad, la menarquia

EFEITO AGUDO DA MENARCA NOS PERCENTUAIS DE GORDURA
RESUMO

O presente artigo trata de um problema que vem se agravando nos últimos anos,a obesidade juvenil.O conhecimento do percentual de gordura corporal , a satisfação com o peso corporal, são informações indispensáveis para a formação educacional e cuidado com a saúde de escolares e pré-púberes e púberes.

Este estudo objetiva apresentar o percentual de gordura na adolescência e seus perfis na fase pré-púbere e púbere delimitada pela idade de menarca, em escolares da rede Municipal de Cabo Frio, Rio de Janeiro. Caracteriza-se como um estudo descritivo, sendo a amostra formada por 144 escolares do gênero feminino, pertencentes ao Município de Cabo Frio.

Ao observar o efeito agudo da menarca sobre o percentual de gordura foi percebido que o percentual de gordura não apresentou diferenças significativas inter-grupos tendo demonstrado uma distribuição homogênea das amostras o que pode indicar uma homogeneidade também no balanço energético que remete a conclusão de que hábitos alimentares e físicos mantêm o mesmo equilíbrio antes e após a menarca assim como o percentual de gordura.

PALAVRAS CHAVES: Percentual de gordura, puberdade, menarca.