149 - OBESITY IN CHILDREN AND ADOLESCENTS: THE NEED OF PREVENTION, CONTROL AND TREATMENT PROGRAMS IN BRAZIL

JONI MARCIO DE FARIAS; CLEBER DE MEDEIROS;
VICTOR JULIERME SANTOS DA CONCEIÇÃO; MARCOS VICENTE; BÁRBARA REGINA ALVAREZ.
Universidade do Extremo Sul Catarinense - Unesc
Grupo de Extensão e Pesquisa em Exercício e Saúde - GEPES
Criciúma - Santa Catarina - Brasil
jmf@unesc.net

1. Etiologia of obesity

Obesity, considered a disease epidemic today, is drawing the attention of researchers from various fields of knowledge. Many polls differ on the main causes and stages for the emergence of obesity, some factors are a consensus in the scientific community, but others are still reasons for discussions. The causes of obesity are considered different. To Viunuski (1994), obesity may be endogenous-causes endocrinológicas, metabolic or genetic - or exogenous factors - external (dietary habits, customs, psychological factors, socioeconomic condition). Salbe and Ravussin (2002) supplement that obesity is linked to environmental factors (socioeconomic condition, "schooling", level of activity, nutrition and tobacco), metabolic (genetic factors, metabolic and endocrine factors) and biological (gestation, age, sex and race).

As Kiess et al. (2001), the Latin American Consensus on Obesity (1998) states that the exogenous factors such as high consumption of diets rich in fats, modernity (technology), in particular the time spent in front of television, and the lack of physical exercise (style little active) contribute to the development of obesity in childhood and adolescence, as well as in adults.

The factors related to obesity also can be found even before birth. Nieman (1999) says that "the genetic factors may explain up to 25% of the differences of obesity among people." According Nahas (1999), "it is estimated that children whose parents are not obese have 10% of chances of becoming obese, if one parent is obese is a chance of 40%, and reaches 80% for children with father and mother obese, showing the genetic or hereditary factors. " Salbe and Ravussin (2002) also relate that parents obese dobram the risk of obesity in children not obese under the age of 10 years.

There are three stages in the development of obesity, which include pregnancy (intra-uterine), early childhood (from 4 to 7 years) and adolescence.

Dietz (1994) and Salbe and Ravussin (2002) Few studies have examined longitudinal nature of the effects of obesity during childhood and adolescence, especially when linked to problems in adult life. However, the presence of obesity in childhood or adolescence seems to increase the morbidity and mortality in adult life. Some studies show that men who were obese during adolescence, increase the chances of morbidity and mortality from cardiovascular disease and colorectal cancer in adulthood (Dietz, 1998).

Obesity is one of the major chronic diseases of public health, causing the following implications: cardiovascular disease, hypertension, type II diabetes, dyslipidemia, and several other diseases, Rippe and Hess (1998). Moreover, Dâmaso et al. (1994), Goran (2001), Kiess et al. (2001) and Wang and Dietz (2002) show the consequences of neglect in childhood obesity, which can trigger diseases such as hypertension, diabetes, venous thrombosis, high concentration of fat in plasma, gastrointestinal disorders, increased incidence of joint damage by overhead, social discrimination, emotional disorders and from the most common sequelae of obesity in childhood, hypertension, dislepidemia, back pain and psychological problems as well as asthma and sleep apnea in.

2. Epidemiology of obesity

Obesity in childhood and adolescence has assumed proportions epidêmicas in the world. In Brazil the prevalence of obesity among children reaches 20% in the more developed regions. The prevalence of obesity affects between 20% to 27% of all children and adolescents and 33% and all adults, according to data presented by the Third National Health and Nutrition Examination Survey (NHANES III), which attests an increase in the prevalence of adiposidade in adults and adolescents. From 1976 to 1987, the prevalence of obesity and superobesidade in a population aged from 12 to 21 years had an increase of 64% (Warden & Warden, 1997). In a study in Germany, 13% of adolescents aged of 13 years can be considered obese. In another search also held in the same country involving more than 2,500 children and adolescents from 7 to 18 years of age, technical diagnosticaram that 29% of the subjects were with overweight and 16% were obese (Kiess et al., 2001).

In the United States approximately 33% of adults are considered obese, causing 300,000 deaths a year, and the number of obese children has increased by at least 50% since 1976. Today the obesity affects between 20 to 27% of children and adolescents, and the projection of the rates of obesity (BMI> 30) in the adult population in the United States is 20% for the year of 2000, 30% for the year of 2015 and more of 40% for the year of 2025, Warden and Warden (1997) and Kiess et al. (2001).

The study of NHANES III (apud Bar-Or, 2003) showed the prevalence of obesity in the United States, from 1965 until 1995, according to sex, age and prevalence:

Sex	Age group (years)	% of the increase in prevalence
Girls	6-11	106
Girls	12-17	69
Children	6-11	108
Child	12-17	146

In Brazil, the data obtained in the search of National Health and Nutrition showed that 7.6% of the population of Brazilians have overweight adolescents, the data still show a greater prevalence of obese adolescents in the city of Sao Paulo-the 14.7% classified as overweight , 14% were female and 15.6% male. According to the Brazilian Society of Pediatrics, it is estimated that 15% of boys and girls Brazilians are obese (in the decade of 80, only 3% of them were considered obese). In Florianopolis, in the year of 1999 about 22.3% of adolescents were overweight or obese, in another survey conducted in 2002 with 1,053 children and adolescents (7 to 18 years), 10% were considered obese and 14% considered overweight with (Giuliano, 2003). Junior (2002), in its survey in the city of Florianopolis, found a population of young people with a percentage of obese similar to national data, with 8% of girls and 14.8% of boys obese.

3. Factors important to the control and treatment of obesity

There is a formula for the treatment of obesity, however many studies have been conducted in order to determine the

best strategy to combat this evil. Treatment of obesity should include amendments general posture family and the individual in relation to dietary habits, type of life, physical activity and food are long-term fix, and change the negativity, self-image and low self-esteem that are the targets in behavior modification (Kiess et al., 2001; Warden & Warden, 1997 and Viunuski, 1994).

To decrease the total body weight, a simple strategy may include the development of regular eating habits, avoiding swallowing very fast of food, the ingestion of water instead of beverages containing calories, reduce the consumption of fat by at least 30% of energy consumed, cutting or reduction in the time spent watching TV (1 hour / day), adoption of a more active lifestyle, Müller et al. (2001).

Actions to reduce body weight should be according to the level of society, to reconcile the influence environmental, physical activity and food consumption, but also the need for a program with specific interventions that include meeting of groups, school programs, matching programs, individual counseling, behavior change methods for the programs, individuals or groups for programs of exercises (Muller et al., 2001).

To Viunuski (1994), the four pillars that support an effective treatment for obesity are:

1. Report of appetite: the patient and (or) their parents should note detail how many, how much, where and with whom the patient has made meals.

2. Control of stimuli: limitations of high calorie foods available at home, availability of foods low in calories (emergency kit), stimulation of meals at the table with fork and knife (never watching TV).

3. Control act of eating: give importance to each meal, reduce the speed of this act (counting each mastication and swallowing each, spacing the garfadas, etc.). Learn to taste (instead of swallowing) foods.

4. Encouraging the year: The exercises should be highly encouraged, seeking to establish a more systematic program. Reduce the time spent watching TV, talking on the phone, walking car and lift.

The physical activity along with diet therapy is more effective than only the diet to attain and maintain the ideal body weight, because physical activity helps reduce the body fat and increase calorie expenditure, Warden and Warden (1997). Gutin and Barbean (2002) contributed to this thinking according to which regime is making possibly the most effective method for losing weight in the short term. Meanwhile, make arrangements leads to the reduction of metabolism at rest, in proportions of decreases in fat-free mass, setting conditions for the person readquira the weight lost when they stop following the diet.

A study by McArdle, Katch and Katch (1998) with rats, the results showed that exercises conducted during the early period of growth inhibit the development of fat cells. The exercises are best at swimming, hiking, running and cycling. The weight training, if prescribed and carried out in a correct, it may help to reduce the percentage of fat, or activities should be structured continuously.

The practice of regular physical exercise and sports brings some advantages when performed in a group, generating positive psychological effects, such as improvement of mood, reduction of stress, the reasoning optimistic, stimulus for socialization, preventing the formation of defects and allowing greater efforts in the search for goals, with enhanced self-esteem, improvement in the intake and expenditure of calories and decreased predisposition to diseases (Vieira et al., 2002, Steen & Brownell, 1987).

4. Need for programs of prevention, control and treatment of obesity.

The increasing percentage of obesity in the world poses the researchers face of two major challenges: treat individuals who are currently obese and prevent obesity those who are still poor. In today the strategies for treatment and prevention are not the most appropriate because of inadequate understanding of obesity. Models applied for adults are used for younger people. Programs for the prevention and treatment of obesity should be a concern of bodies in public health from the training of professionals to specific programs for the treatment, with specific characteristics of this disease.

Encourage children to reduce the sedentary behavior, such as the time in front of the television has been one of the most efficient component to reduce the percentage of fat than conditioning them to increase their physical activity or even the combination of the two. Salbe and Ravussin (2002).

The NASPE (National Association for Sport and Physical Education) recommends that children practice at least one to two hours of exercise per day. A theoretical analysis developed by the World Health Organization, but held hypothetically adult males and not to children, suggests that one to two hours of walking per day is needed to raise the average level of activity for a track that would be protective in relative to excessive weight gain (Gutin & Barbean, 2002).

However, if young obese incorporate in their daily four to six hours per week of moderate to vigorous exercise, can expect a reduction in its percentage of fat in various units (measure) a year and may be a clinically significant amount, Gutin & Barbean (2002),. Some studies show that programs for the treatment of obesity based on the change in lifestyle, that is, to promote walking, guidance food, and other activities not as severe, they may have better results than the programs aerobic rigid. Logically, "Programs that combine exercise and diet are more efficient in using only diet" (Viunuski, 1994). However, Gomes et al. (1980) reported that the intense physical activity was associated with decreased the encouragement of adults to participate in sporting activities, and the intention of youths between 13 and 14 years, maybe this can explain the high rate of abandonment in the programs of intervention of obesity , in which 62.5% leave from six months. Dishman (apud Nahas, 1999) shows that the residence (membership) in this type of program is usually low. The author suggests that the abandonment of such programs, vigorous exercises reaches 50% in the first six months, while lower rate of withdrawal (25% to 35%) is observed in programs for moderate activities. Perhaps this can be explained because most programs for young people using models developed for adults (Welk 1999).

Children should be encouraged to participate in daily physical activities, such as: sports, hiking, cycling, dance, organize games, and other activities, activities that contribute to improvements in physical fitness and decrease body weight, when compared to programs of exercises vigorous. Hence the need to define the intensity of the exercise for the child, respecting the biological and chronological age, for better use of the activities (Frary & Johnson, 2003; Warden & Warden, 1997).

Many schools know that responsibility and have written goals or objectives for the activities that develop, fitness, skills, attitudes and knowledge to good health. Welk (1999) complements that, during childhood and adolescence (teaching basic and medium), should be opportunity skills of behavior (Self-monitoring, self-enhancement and programs planned) and promoted a model of physical activity to be used throughout life.

In a country where many can not attend the clubs or academies, according to Vieira et al. (2002), the enhancement of Physical Education, even secundarizada in relation to the other activities of the school curriculum, and encouraging the promotion of the sport at EU level are listed as key strategy in the quest for full health of adolescents.

The Center for Disease Control (CDC) in 1997, establishes guidelines for programs of physical activity for the school and community. The guidelines recommend specifically the promotion of physical activity for coordinating educational and health programs, with connection established between school, family and community (Welk 1999) The Department for Health and Human Services (2003) of the CDC, through the CDC project ' s Youth Media Campaign-Projects to Increase Physical Activity

Among Youth, reported all projects are developed and how developed. The projects are carried out primarily by state agencies of education, then by local agencies of education and, finally, by national organizations, and all developed similar projects and specific to each agency.

There are other programs aimed at increasing physical activity for the community in general, such as Agita São Paulo; Push Play, New Zealand; Active Living, Canada; Active Australia, Australia; Active for Life, England ; The Netherland on the Move, Germany, and Mexa is More in Oeiras, Portugal. But the great difficulty is to find in cities, states, countries or specific programs, such as for the control and treatment of obesity, which are developed by multidisciplinary teams, with weekly speeches and permanent.

The community also has a responsibility to develop programs, and activities for after school, oportunizando the many children the practice of some physical exercise, while waiting for their parents. Please note that these activities should be conducted for each period of class. The community may also use the community centers, among other places in the community to increase the opportunities for the child to be more active before during and after school (Welk, 1999).

5. Final considerations

The discussion of the importance of the intervention programs, control and treatment of youngs obesity is relevant in the world, but the formatting of those programs that meet the demand efficiently, with specific protocols (eg, obesity), with the participation of teams multi-professional (physical education, medicine, psychology, nutrition), availability of resources, both private and public order for the payment of professionals, purchase of materials, drugs and tests used to the success of such programs, is the great difficulty found by researchers in the area.

However, it is believed that when projects with significant results, which show the contribution of programs for the prevention, control and treatment of obesity in all ages, obesity as a chronic-degenerative disease not transmissible, the public agencies can provide services facing the prevention, control and treatment of obesity among the PSFs (the Family Health Program), with teams multi-professional, with specific programs for obesity which certainly in the future can have positive results for the health of the Brazilian.

REFERENCES BIBLIOGRÁFICAS

Bar-Or, O. (2003). A Epidemia da Obesidade Juvenil: A Atividade Física é Relevante? Hamilton. *Gatorade Sports Science Institute*, 16(2), 336-353.

Brownell, K. D., Steen, S. N. (1987). Modern Methods for Weight Control: The Physiology and Psychology. *The Physician and Sport Medicine*, 15(12).

Consenso Latino Americano sobre Obesidade (1998). **Disponível: http://www.abeso.org.br/consenso.doc.**

Dietz, W. H. (1994). Critical Periods in Childhood for the Development of Obesity. Atlanta, *American Journal Clinical Nutritional,* 59(5), p. 955-959.

Dietz, W. H. (1998). Childhood Weight Affects Adult Morbidity and Mortality. *The Journal of Nutrition*, 128(2), p. 411-414.

Júnior, J. C. F. (2002). Estilo de Vida Relacionado à Saúde de Adolescentes do Ensino Médio no Município de Florianópolis, Santa Catarina, Brasil. Dissertação de mestrado, Curso de Educação Física, UFSC, Florianópolis.

Frary C., Johnson, R. K. (2000). Physical Activity for Children: What Are The US Recommendations? *Nutrition Foudation Nutrition Bulleti,* 25, 329-334.

Giuliano, I. C. B. (2003). *Lípides Séricos em Crianças e Adolescentes da Rede Escolar de Florianópolis.* Tese de Mestrado, Faculdade de Medicina, UFSC, Florianópolis.

Gomes, M. B. Werneck, D. Quadra, A. A. F. (1980). Obesidade: Fatores de Risco e Efetividade do Tratamento na Infância e Adolescência. *Jornal Pediatria*, 49(4).

Goran, M. I. (2001). Metabolic Precursors and Affects of Obesity in Children: a Decade of Progress, 1990-1999. *American Journal for Clinical Nutrition*, v. 73, p.158-171.

Gutin, B. Barbeau, P. (2002). Atividade Física e Composição Corporal em Crianças e Adolescentes. In: Bouchard, Claude. *Atividade Física e Obesidade*. August (pp.246-283). Geórgea: Manole.

Kiess W. et al. (2001). Clinical Aspects of Obesity in Childhood and Adolescence. Leipzig. *Obesity Reviews*, 2(1), 15-28.

McArdle, W. D., Katch, F. I., Katch, V. L. (1998). *Fisiologia do Exercício*. 4. ed. Rio de Janeiro: Guanabara.

Müller, M. J., Mast M., Asbeck I., Langnase K., Grund A. (2001). Prevention of Obesity - Is it Possible? *Obesity Reviews*, 2(1), 15-28.

Nahas, M. V. (1999). *Obesidade, Controle de Peso e Atividade Física.* Londrina: Midiograf.

Nieman, D. C., (1999). *Exercício e Saúde*. São Paulo: Manole.

Rippe, J. M., Hess, S. (1998). The Role of Physical Activity in the Prevention and Management of Obesity. *Journal of the American Dietetic Association*, v.98 issue 10 supplement 1. 31-38

Salbe, A. D., Ravussin, E. (2002). As Determinantes da Obesidade. In: Claude Bouchard. *Atividade Física e Obesidade*. (pp 80-103). São Paulo: Manole.

Vieira, V. C. R. Priore, S. E. Fisberg, M. (2002). Atividade Física na Adolescência. *Adolescência Latino-americana*, 3(1).

Viuniski, N. (1994). Obesidade Infantil. *Pediatria Atual*, 7(8).

Wang, G., Dietz, W. H. (2002). Economic Burden of Obesity in Youths Aged 6 to 17 Years: 1979 - 1999 - PubMed - *Division of Nutrition and Physical Activity*, 1195-1203.

Warden, N. S., Warden, C. H. (1997). Pediatric Obesity - Pediatric Clinics of North America. Pediatric Endocrinology, 4(22), 339-361.

Welk, G. J., (1999). The Youth Physical Activity Promotion Model: A Conceptual Bridge Between Theory and Practice. *Cooper Institute for Aerobics Research,* v5 n22.

Av. Universitária - 1105
Bairro Universitário
GEPeS - Grupo de Extensão e Pesquisa em Exercício e Saúde.
jmf@unesc.net
Fone: (48) 3431-2653 / 9978-1088

OBESITY IN CHILDREN AND ADOLESCENTS: THE NEED OF PREVENTION, CONTROL AND TREATMENT PROGRAMS IN BRAZIL

ABSTRACT

In the last decades, obesity has got the attention of many specialists and become a field for the development of several researches and intervention programs. The difficulty losing and maintaining the corporal weight for a long period of time, the ingestion of greasy food, and a sedentary physical behavior contribute to increase corporal weight, which leads to obesity. Specialists are concerned with adolescence due to difficulty in changing habits established in previous ages. In order to control obesity in adolescence as well as in other ages, some developed countries have created strategies such as educational programs, media campaigns focusing schools, communities, parks, etc. In this work we intend to explain and provide pertinent information about the etiology of obesity, its classification, present occurrence, causes, treatment and prevention world programs. We hope this work will help to promote programs of prevention and treatment of obesity in different age groups, but mainly in childhood and adolescence.

KEYWORDS: obesity in children and adolescents, prevention, control and treatment.

L'OBESITE CHEZ LES ENFANTS ET LES ADOLESCENTS: LA NECESSITE DE LA PREVENTION, DE CONTROLE ET DE PROGRAMMES DE TRAITEMENT IN BRAZIL

RÉSUMÉ

Au cours des dernières décennies, l'obésité a reçu toute l'attention de beaucoup de spécialistes et de devenir un domaine de l'élaboration de plusieurs programmes de recherches et d'intervention. La difficulté et le maintien de la perte de poids corporel pour une longue période de temps, de l'ingestion d'aliments gras, et un comportement physique sédentaires contribuer à l'augmentation du poids corporel, ce qui conduit à l'obésité. Des spécialistes sont intéressés à l'adolescence en raison de la difficulté à changer les habitudes établies dans les âges précédents. Afin de contrôler l'obésité à l'adolescence ainsi que dans d'autres âges, certains pays développés ont créé des stratégies telles que des programmes d'éducation, des campagnes dans les médias en se concentrant écoles, les collectivités, les parcs, etc Dans ce travail, nous avons l'intention d'expliquer et de fournir des informations pertinentes sur l'étiologie De l'obésité, son classement, le présent accident, les causes, le traitement et la prévention des programmes du monde. Nous espérons que ce travail contribuera à promouvoir les programmes de prévention et de traitement de l'obésité dans différents groupes d'âge, mais surtout dans l'enfance et l'adolescence.

MOTS CLEFS: obésité des enfants et des adolescents, prévention, le contrôle et le traitement.

LA OBESIDAD EN NIÑOS Y ADOLESCENTES: LA NECESIDAD DE LA PREVENCIÓN, EL CONTROL Y EL TRATAMIENTO EN LOS PROGRAMAS BRASIL

RESUMEN

En las últimas décadas, la obesidad ha recibido la atención de muchos especialistas y convertido en un campo para el desarrollo de varias investigaciones y programas de intervención. La dificultad para perder y mantener el peso corporal durante un largo período de tiempo, la ingestión de alimentos grasosos, y un comportamiento sedentario física contribuir a aumentar el peso corporal, lo que lleva a la obesidad. Los especialistas se refieren a la adolescencia debido a la dificultad de cambiar los hábitos establecidos en las edades anteriores. Con el fin de controlar la obesidad en la adolescencia, así como en otras edades, algunos países desarrollados han creado estrategias como programas educativos, campañas en medios de comunicación se centra escuelas, comunidades, parques, etc ... En este trabajo tenemos la intención de explicar y dar la información pertinente acerca de la etiología De la obesidad, su clasificación, la presente incidencia, las causas, el tratamiento y la prevención de programas mundo. Esperamos que este trabajo ayude a promover programas de prevención y tratamiento de la obesidad en los diferentes grupos de edad, pero principalmente en la infancia y la adolescencia.

PALABRAS CLAVE: la obesidad en niños y adolescentes, la prevención, el control y el tratamiento

OBESIDADE EM CRIANÇAS E ADOLESCENTES: A NECESSIDADE DE PROGRAMAS DE PREVENÇÃO, CONTROLE E TRATAMENTO NO BRASIL.

RESUMO

A obesidade, nas últimas décadas, vem preocupando e chamando a atenção de muitos especialistas, tornando-se um campo para o desenvolvimento de diversas pesquisas e programas de intervenção. A dificuldade na diminuição e manutenção do peso corporal por um tempo prolongado, o consumo de alimentos gordurosos e a adoção de um comportamento físico sedentário, são fatores que contribuem para o aumento dos índices de obesidade no Brasil e no mundo. A adolescência é uma das idades que também vêm preocupando pesquisadores, em decorrência da dificuldade em mudar os hábitos (alimentares, físicos e comportamentais) pré-estabelecidos nos primeiros anos de vida até a infância. Alguns países vêm adotando estratégias para controlar a obesidade em todas as faixas etárias, por meio de programas educativos, campanhas de mídia, escola, comunidade, parques, etc. Neste trabalho pretende-se, de forma sintetizada, disseminar informações atuais e pertinentes sobre a etiologia da obesidade, como classificá-la, qual é a sua prevalência atualmente, fatores que contribuem para o surgimento, como tratá-la e quais os programas mundiais existentes sobre prevenção e tratamento da obesidade em jovens no mundo. No entanto, sabe-se que só o conhecimento de como agir contra a obesidade não é o suficiente, precisam ser desenvolvidas ações. Espera-se, com este trabalho, despertar nos leitores o interesse em fomentar programas de prevenção, controle e tratamento da obesidade na infância e adolescência.

PALAVRAS-CHAVE: obesidade em crianças e adolescentes, prevenção, controle e tratamento.