

Obesity: epidemics or crisis worldwide?

The rapid increase in the level of obesity and overweight worldwide is recognized as a major health problem: obesity poses a major risk for serious diet-related diseases, including diabetes mellitus, cardiovascular disease, hypertension, stroke and cancer; therefore, it increases the risk of premature death.[1] In particular, abdominal obesity - an increased amount of intra-abdominal fat - has been associated with a number of cardiovascular disease (CVD) risk factors, CVD and all-cause mortality [2]. Recent research demonstrated that high BMI values are associated with increased sympathetic activity, which results in decreased Heart Rate Variability (HRV). [3]

Obesity can also be related to psychiatric disorders. [4,5] Some research suggests that depression and anxiety might lead to obesity through the adoption of an inactive lifestyle; however, the opposite direction is also possible. [6]

The rising epidemic reflects the profound changes in society and in behavioural patterns of communities over recent decades. While genes are important in determining a person's susceptibility to weight gain, energy balance is determined by calorie intake and physical activity [7]. Economic growth, modernization, urbanization and globalization of food markets are just some of the forces thought to underlie the obesity trend. Based on the existing prevalence, trend data and the epidemiological evidence linking obesity with health conditions, it is reasonable to describe obesity as a public health crisis that severely impairs the quality of life, adds to national health care budgets. [8]

While standards of living have improved, food availability has expanded and become more diversified, and access to services has increased with significant negative consequences in terms of inappropriate dietary patterns, decreased physical activities, and a corresponding increase in diet-related chronic diseases, especially among poor people. [9]

Changes in the world food economy are reflected in shifting dietary patterns: preferences are switching from traditional foods towards increased consumption of low-cost energy-dense foods, high in salts, saturated fats and low in unrefined carbohydrates [9] with a significant impact on the health and nutritional status of populations, particularly in developing countries and in countries in transition too.

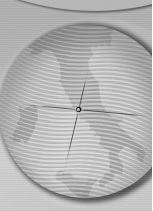
During the last decades, data show that a rise in the prevalence of obese people has also occurred in developing countries such as Mexico, China and Thailand [10], in Iran [11, 12] and India [13, 14].

In the case of European countries, a WHO Regional Office for Europe study points out that the highest prevalence of overweight was found in Albania (in Tirana), Bosnia and Herzegovina and the United Kingdom (in Scotland). Turkmenistan and Uzbekistan had the lowest rates: the prevalence of obesity ranged from 5% to 23% among men and between 7% and 36% among women. [15]

The impact that globalization and rapid socioeconomic transition have on nutrition is analyzed to identify the socio-cultural and physical factors which promote obesogenic environments, so to promote prevention strategies in sectors like education, health, food and economic policies.

In 2004 the WHO delivered a global strategy on diet, physical activity and health which recommended a multisector approach to increasing fruit and vegetable consumption, decreasing fat, sugar and salt intake and promote physical activity. Intervention strategies of both behavioural (to change individual lifestyles) and social/environmental nature were recommended. [16, 17]

Country policies recognize the need to act at the national, regional,



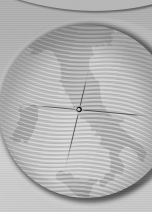
community and individual levels, and the need to involve stakeholders in implementing policy. All policy strategies identify target groups relating to the life-course approach. In a very few cases, particular groups are targeted including individuals with low socioeconomic status, distressed people, the chronically ill and disabled, ethnic minorities, and those with limited education. Specific policy actions have been implemented in multiple settings, and in particular in workplaces, health care services and schools. Most countries focus on active transport, such as constructing safe walking and cycling paths. Understanding the determinants of life style and behavior in a person's youth and making attempts to change children's habits is considered a key strategy in the primary prevention of obesity. [18, 19]. Therefore, children and adolescents are seen as a decisive target group, and health promotion in schools is one of the most prominent approaches for interventions in all member countries. It has been observed that an improvement in nutritional knowledge is associated with positive changes in dietary behaviour. [20-22]

The obesity epidemic trends need to be examined especially in developing countries. Policy-makers should remember that it is essential to continue and improve the collection of data on obesity, health and nutritional status and prevention policies. [23]

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References

- 1) WHO. The challenge of obesity in the European Union: Factsheet. 2005. Available from: www.euro.who.int/document/mediacentre/fs1305e.pdf. [Accessed april 2011]
- 2) Chakraborty R, Bose K, Koziel S. Use of waist circumference and its optimal value to identify obesity in relation to hypertension: a cross-sectional study among adult male slum dwellers of Eastern India. *Ital J Public Health* 2011;8(2):137-148.
- 3) Subramaniam BS. Influence of Body Mass Index on Heart Rate Variability (HRV) in evaluating cardiac function in adolescents of a selected Indian population. *Ital J Public Health* 2011;8(2):149-155.
- 4) de Wit LM, Fokkema M, van Straten A, Lamers F, Cuijpers P, Penninx BW. Depressive and anxiety disorders and the association with obesity, physical, and social activities. *Depress Anxiety* 2010;27(11):1057-65.
- 5) Moussavi S, Chatterji S, Verdes E, Tandon A, Patel V, Ustun B. Depression, chronic diseases, and decrements in health: results from the World Health Surveys. *Lancet* 2007; 370(9590):851-8.
- 6) Moghimi-Dehkordi B, Safaee A, Vahedi M, Pourhoseingholi MA, Habibi M, Pourhoseingholi A, Zali MR. Association between perceived depression, anxiety and stress with Body Mass Index: results from a community-based cross-sectional survey in Iran. *Ital J Public Health* 2011;8(2):128-136.
- 7) Simopoulos AP, Pavlow KN, eds. Nutrition and fitness: diet, genes, physical activity and health. Proceedings of 4th International Conference on Nutrition and Fitness, Athens, May 2000. New York, NY: Karger. *World Review of Nutrition and Dietetics* 2001:89.
- 8) Seidel J.C, Nooyens AJ, Viscsher TLS. The Boyd Orr Lecture. Cost effective measures to prevent



- obesity: epidemiological basis and appropriate target groups. *Proc Nutr Soc* 2005;64:1-5.
- 9) Diet, nutrition, and the prevention of chronic diseases. Report of a WHO Study Group. WHO Technical Report Series, No. 797. Geneva: World Health Organization, 1990.
- 10) Caballero B. The global epidemic of obesity: an overview. *Epidemiol Rev* 2007;29(1):1-5.
- 11) Kelishadi R, Alikhani S, Delavari A, Alaedini F, Safaie A, Hojatzadeh E. Obesity and associated lifestyle behaviours in Iran: findings from the First National Non-communicable Disease Risk Factor Surveillance Survey. *Public Health Nutr* 2008;11(3):246-51.
- 12) Pourhoseingholi MA, Kaboli SA, Pourhoseingholi A, Moghimi-Dehkordi B, Safaee A, Mansoori BK, et al. Obesity and functional constipation; a community-based study in Iran. *J Gastrointest Liver Dis* 2009;18(2):151-5.
- 13) Lean ME, Han TS, Bush H, Anderson AS, Bradby H, Williams R. Ethnic differences in anthropometric and lifestyle measures related to coronary heart disease risk between South Asian, Italian and general-population British women living in the west of Scotland. *Int J Obes Relat Metab Disord* 2001;25:1800-05.
- 14) Orr-Walker B, Evans MC, Reid IR, Cundy T. Increased abdominal fat in young women of Indian origin. *Asia Pac J Clin Nutr* 2005;14:69-73.
- 15) World Health Organization Regional Office for Europe. The challenge of obesity in the WHO European Region and the strategies for response. World Health Organization, 2006.
- 16) Ceccarelli A. Review of policies adopted in 34 Countries to improve diet and physical activity. *Ital J Public Health* 2011;8(2): 156-171.
- 17) World Health Organization. Global strategy on diet, physical activity and health, 2004. Available from: <http://www.who.int/dietphysicalactivity/strategy/eb11344/strategyenglishweb.pdf>. [Accessed april 2011].
- 18) Sidoti E, Mangiaracina P, Paolini G, Tringali G. Body Mass Index, family lifestyle, physical activity and eating behavior on a sample of primary school students in a small town of Western Sicily. *Ital J Public Health* 2009;6(3):205-17.
- 19) Dietrich S, Pietrobelli A, Dämon S, Widhalm K. Obesity intervention on the healthy lifestyle in childhood: results of the PRESTO (PrEvention STudy of Obesity) Study. *Ital J Public Health* 2008;5(1):22-7.
- 20) Rhodes KS, Bookstein LC, Aaronson LS, Mercer NM, Orringer CE. Intensive nutrition counselling enhances outcomes of National Cholesterol Education Program dietary therapy. *J Am Diet Assoc* 1996;96(10):1003-10.
- 21) Mhurchú CN, Margetts BM, Speller V. Randomized clinical trial comparing the effectiveness of two dietary interventions for patients with hyperlipidaemia. *Clin Sci (Lond)* 1998;95(4):479-87.
- 22) Quercioli C, Marianelli RB, Conti S, Niccoli B, Messina G, Nante N. Nutritional counselling and its effects on diet, nutritional knowledge and status, physical activity and quality of life in a Southern Europe population: evaluation of a health promotion programme. *Ital J Public Health* 2011;8(2):111-118.
- 23) Arpesella M, Camprostrini S, Gerzeli S, Lottaroli S, Pane A, Traverso MA, Vandoni M, Coppola L. Obesity nutritional aspects and life style from a survey on a sample of primary school pupils in the Pavia province (Northern Italy). *Ital J Public Health* 2008;5(1): 12-7.