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DIET, NUTRITION, AND PHYSICAL ACTIVITY

Rates of overweight and obesity have reached epidemic proportions worldwide. In the Americas, the epidemic transcends socioeconomic boundaries, afflicting both rich and poor, and individuals across all age groups.

The rapid increase in obesity rates in recent years has occurred in too short a time to enable it to be attributable to any significant genetic changes in populations. On the contrary, changes in lifestyles and the environment over the last half century are more likely to explain the epidemic. For instance, new technologies and more efficient agricultural production have made possible what for many centuries was an unattainable goal: the year-round availability of food at affordable prices for larger segments of the population. In addition, more sedentary occupations, motorized transportation, increased television viewing, and ubiquitous labor saving devices increasingly favor physical inactivity.

Treatment approaches to obesity control have shown only modest results and are unlikely to halt the epidemic; therefore, preventive and promotional strategies are most likely to succeed at the population level. The role of public health in the Americas should be to make healthy choices the easiest choices, and the objective over the next decade is to bring about key behavioral changes at the population level.

Physical activity need not be strenuous in order to produce health benefits. The promotion of at least thirty minutes of moderate physical activity per day is a realistic goal. This needs to be accompanied by greater accessibility to recreational spaces and safety on the streets, sustained promotion of walking and biking in the city, and the institutionalization of physical activity in the workplace and schools. On the other hand, improving eating patterns requires effective promotion of healthy foods, with consideration of such measures as more rational pricing, subsidies and regulation of advertising of nutrient-poor foods.

There is increasing awareness that preventive interventions work and treatment costs are beyond the financial means of individuals and the public health systems in most middle- and low-income countries. Interventions for obesity prevention and control should be complementary with current efforts to end undernutrition and specific nutrient deficiencies, under a new paradigm that promotes optimal growth, development and a long and healthy life. Likewise, integrated plans and programs on obesity and non-communicable diseases are also needed given the commonality of their causes.

The Executive Committee is requested to recognize obesity and its co-morbidities, along with physical inactivity and poor quality diets, as a major public health threat and priority for action in the Region, and to propose ways in which the Pan American Health Organization (PAHO) can promote and support an integrated strategy for the prevention and control of obesity.

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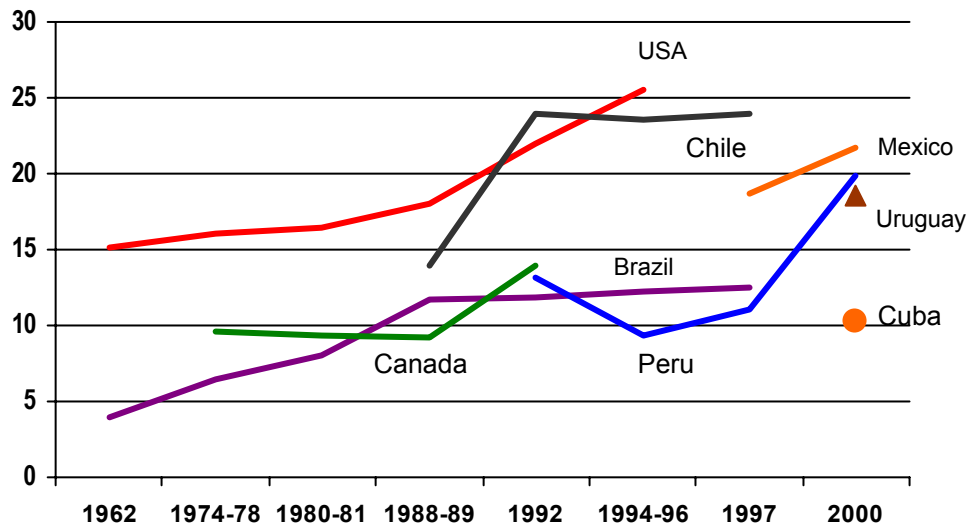
Obesity in the Americas: The Challenge to Promote Healthy Nutrition and Active Living

Prevalence of Obesity and the Health Transition in the Americas

1. The prevalence of overweight and obesity is increasing worldwide at an alarming rate. Both developed and developing countries are affected, and the problem appears to be increasing rapidly in children as well as in adults. The obesity epidemic in the Americas transcends socioeconomic boundaries, affecting both rich and poor and individuals across all age groups.

2. In countries where national representative data exist for more than one point in time, the prevalence of obesity, defined as body mass index (BMI) ≥ 30 kg/m², has an upward trend (Figure 1). According to the estimates provided by the National Health and Nutrition Examination Service (NHANES III) (1988–1994), 20% of all men and 25% of all women in the United States of America are obese. Canada trails the United States, with 13.4% obese adults. In Brazil, obesity affected 6% of men and 13% of women in 1989. In Peru, the prevalence of overweight adults increased by 50% between 1992 and 1996. Obesity among women was notably higher at 18% in the high socioeconomic level, 24% in the mid level, and 26.5% in the low level. Among men, the prevalence of obesity was 17%, 15%, and 13.8%, respectively. Data from Argentina, Colombia, Mexico, Paraguay, and Uruguay also show more than 15% of these countries' populations are obese.

Figure 1. Obesity (BMI ≥ 30) Trends Among Women in the Americas



Source: Data from national representative surveys.

3. Even more disturbing, the trend is also growing among the Region's children. Twice as many children in the United States are overweight now compared to two decades ago. In Chile, Mexico, and Peru, an alarming one in every four children aged 4 to 10 is overweight.

4. While genetic susceptibility may explain about 30% of the observed obesity, changes in lifestyles and in the environment over the last half century are more likely to explain the recent epidemic of obesity. In fact, environmental factors are capable of overriding biological mechanisms responsible for keeping body weight stable over the long term. The increase in overweight and obesity has been extensively documented in industrialized societies, indicating a transition from a positive to a negative association between income and obesity over the past quarter of a century. A similar phenomenon is now emerging in developing countries and in some middle-income countries in Latin America, where higher rates of obesity among the poor are being observed, especially in urban areas.

Determinants of Obesity

Historical Overview

5. Obesity is a consequence of an energy imbalance—i.e., when energy intake exceeds energy expenditure over an extended period of time. Many complex and diverse factors can give rise to a positive energy balance, but it is the interaction between a number of these factors, rather than the influence of any single factor, that is thought to be responsible.

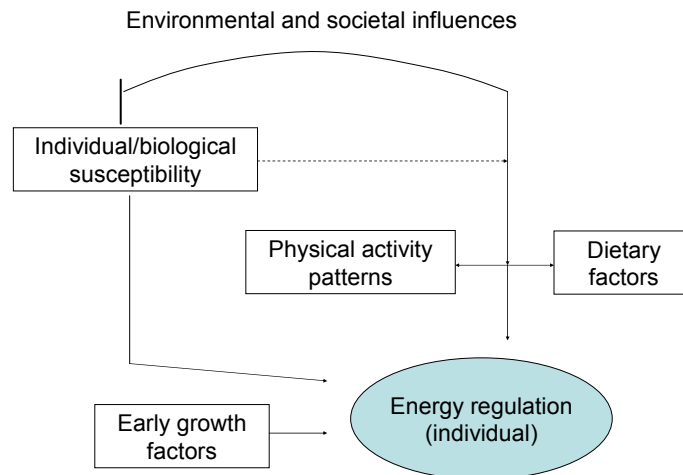
6. Energy regulation is influenced by various external factors. Powerful societal and environmental forces influence energy intake and expenditure and may overwhelm the physiological processes within individuals. In fact, those forces act on pre-existing genetic and biological factors that probably developed over millions of years transforming the human body into a highly efficient energy-saving (fat storing) “machine.”¹ It was most likely this mechanism that has enabled survival over a long period of human history, when recurring periods of food shortages were the norm. There is a growing body of evidence to support the belief that the current epidemic manifestation of obesity is more the result of rapid technological and cultural changes over the past 50 years than a manifestation of some biological evolutionary factor, especially in view of the fact that the human genetic make-up has remained unchanged for thousands of years.

¹ True heritability of BMI in large sample sizes was likely to be in the range of 25%-40%. Recent studies have shown that the amount of abdominal fat was influenced by a genetic component accounting for 50%-60% of the individual differences.

7. A worldwide phenomenon of secular weight and height gains first began to be detected about a century ago, but it was not until recently that obesity emerged prominently at a global scale. Recent economic studies highlight the fact that technological change has at once raised the cost of physical activity and lowered the cost of caloric consumption. The latter is largely driven by improved technology and more efficient agricultural production, while the former becomes more costly as domestic and work activities become increasingly sedentary. The result of these changes is that individuals must make larger investments in time and money in order to achieve the same levels of physical activeness as their ancestors.

8. The following sections briefly review the existing evidence on individual factors (e.g. diet, physical activity, and early growth) and environmental determinants affecting obesity (Figure 2). In examining these elements, this document also offers important prevention and control considerations that set the stage for the proposed actions presented at the end of the document.

Figure 2. Factors that Influence the Development of Obesity



Adapted from WHO, 2002

Dietary Factors and Physical Activity Patterns

9. The factors associated with risk of overweight and obesity have been categorized according to the strength of the scientific evidence, following the WHO criteria.² The two most important factors associated with *increased* risk of overweight are the consumption of high-energy dense (high in fat or sugar) foods and preparations, coupled with sedentary lifestyles over a medium/long period of time. On the other hand, there is convincing evidence for *decreased* risk with regular physical activity³ and high consumption of dietary fiber, as later explained. On the other hand, probable evidence of decreased risk is provided by interventions that promote supportive school environments, including improved school foods and physical education programs, as well as strategies that promote linear growth. The latter is a reminder that current efforts to combat childhood stunting are not only beneficial in the short term (e.g. improve growth and educational outcomes, etc.), but also in the long run they contribute to prevent certain chronic diseases.

Dietary Factors

10. Dietary factors can be divided into two categories: host (individual characteristics and behaviors) and vector (foods and beverages). The most critical points highlighted here have been reviewed extensively by the Joint WHO/FAO Consultation on diet, nutrition and prevention of chronic diseases.⁴ In addressing the issue of diet and obesity prevention, this document emphasizes the need to place the problem within the broader framework of *health promotion and disease prevention*. This enables a more coherent approach to nutritional recommendations from both a scientific and a communication perspective.

11. A major concern today is the upward trend in total energy consumption, which parallels that of obesity throughout the world (see note 4 above). The phenomenon has been associated with a similar increase in consumption of foods rich in fat/oils and free

² Terms used here to describe the strength of scientific evidence comes from criteria adopted by the current WHO Expert Committee (Technical Report Series 916, 2003), which in turn follows an earlier work by the World Cancer Research Fund (1997). A summary description of those terms follows. “Convincing evidence” indicates a strong association provided by substantial number of epidemiological studies (primarily RCT), consistent results, large enough sample sizes and biological plausibility. “Probable evidence”, indicates that data shows fairly consistent associations and biological plausible but with associations between exposure and obesity not in total congruity. Finally, “Possible evidence” indicates that findings were obtained mainly from case-control and cross-sectional studies, and some RCT but more information is needed to confirm presumptive associations. “Insufficient evidence” comes from few studies so more sound investigation is required.

³ For an explanation about current physical activity recommendations for weight control vis-a-vis health maintenance see paragraph 42 in this document.

⁴ WHO, Diet, Nutrition and the Prevention of Chronic Diseases TRS 916, Geneva 2003.

sugars,⁵ and snacking,⁶ in the United States and in less developed areas of the Region, where oils and refined carbohydrate consumption have increased in the last 20 years.⁷ The increased consumption of oils and foods high in free-sugars and low nutrient density has been preceded by a large supply of those products at relatively lower prices than those of higher nutrient value⁷.

12. At present, there is probable evidence that soft drinks promote energy intake by reducing appetite control,⁸ providing grounds for the recommendation of limiting their consumption as it may help prevent weight gain.⁹ On the other hand, convincing evidence, coming from several trial studies, indicates that diets high in fiber content (non-starch polysaccharides) promote weight loss besides offering numerous health benefits other than just weight control.¹⁰

13. In addition, the increased consumption of soft drinks is regarded as a problem because of the displacement of beverages with high nutrient content, notably milk.¹¹ In the United States, that phenomenon has been described for women, children, and adolescents and is considered an important factor behind the observed lower calcium intakes in the population. The increase in soft drink consumption in several other populations of the Region for which food balance data is available raises similar concerns (see note 4 above).

14. The aforementioned increase in total energy consumption is accompanied by a decline in consumption of foods rich in several nutrients and fiber such as vegetables, whole grains, and fruits (see note 7 above). Given that these foods contribute to overall

⁵ Report of the Dietary Advisory Guidelines Advisory Committee on Dietary Guidelines for Americans, 2000 pp.37-38. In referring to the high sugar intake by the US population the report states "...these trends raised concerns because of their coincidence with other undesirable changes in the country's nutritional well-being, e.g. increasing rates of obesity...".

⁶ Cutler DM et.al. Why have Americans become more obese? National Bureau of Economic Research, Jan 2003.

⁷ Uauy R and Monteiro C. The challenge of improving food and nutrition in the Americas, Working Paper, WHO/PAHO Regional Consultation of diet, physical, activity and health, San José, Costa Rica, Apr 2003

⁸ See note 4 above. The reduced appetite control effect has been based on studies by Rolls, 1997; Ludwing, 2002 Ebbeling & Ludwing, 2001 among others.

⁹ See footnote 4. The panel of experts decided on the *probable evidence* after reviewing evidence provided by key authors: Mattes RD, 1996; Tordoff & Alleva, 1990; Harnack L, Stang J & Story M, 1999; Ludwing DS, Peterson KE & Gortmaker, 2001; Raben A et.al, 2002.

¹⁰ See note 4 above. Section on Recommendations for preventing excess weight gain and obesity, Strength of evidence. Notably the studies by Pereira and Ludwing found that in 12 out of 19 trials, dietary fiber promoted different health outcomes including weight loss.

¹¹ Harnack L et.al. Soft drink consumption among US children and adolescents: nutritional consequences. J Am Diet Ass 99:463-441, 1999.

health, it is critical to promote a greater supply as well as an increased demand and consumption by the public.

15. There is also a technological and economic aspect related to upward energy consumption trends that has been examined during our recent WHO/PAHO Regional Consultation on Diet, Physical Activity and Health (San José Costa Rica, April 2003) (see note 9 above). Food consumption data, particularly for foods such as vegetable oils and sugary soft drinks, indicate that as technology and production efficiency increases, prices drop and demand rises. Data from the United States indicate that at least 40% of the increase in the prevalence of obesity over the past 25 years may be explained by the reduction of the unit price of food, especially of sweet and salty fatty snacks.^{12, 13, 14}

16. The above phenomenon can be illustrated with data from the USDA Economic Research Service. While the United States food market supply for grains and vegetables is closely matched with recommended servings by the food pyramid (FP), this is not the case for fats and sugar. Thus, the United States food market supplies 65 grams of added fats to foods per day per person while the FP recommends 41 grams. Similarly, for added sugars, the supply is 31 teaspoons per day per person, while the recommendation of the FP is 12 teaspoons.¹⁵

17. The elevated consumption of high calorie low nutrient foods is also boosted by advertising on TV, posing an undue toll on children. In fact, as suggested by W. Dietz from the CDC: “Children eat the foods they see advertised on TV. If you’ve seen any children’s shows, you know that these foods tend to be fast foods, sugared breakfast cereals and snacks. TV is a behavioral health hazard.”¹⁶ The health risks imposed by TV advertising has also been acknowledged by WHO¹⁷ under the category of “probable risk,” suggesting this being an area of intervention.

Physical Inactivity

18. Physical activity, defined as “any bodily movement produced by skeletal muscles that results in a substantial increase over the resting energy expenditure,” ranges from the

¹² Alderman H The effect of food price and income changes on the acquisition of food by low-income households. WDC, IFPRI 1986.

¹³ Haddad L. Redirecting the Diet Transition: What Can Food Policy Do? IFPRI World Bank Paper Washington, D.C., January 2003.

¹⁴ Ralston, K. 2000. How government policies and regulations can affect dietary choices. In *Government Regulation and Food Choices*, USDA/ERS.

¹⁵ Putnam J, Allshouse and Kantor L US per capita food supply trends: More calories, refined carbohydrates and fats, Food Review, Vol 25, No.3:2-15 Winter 2000.

¹⁶ Chronic Disease Notes & Reports, CDC, Vol 13, No 1:1-4, Winter 2000.

¹⁷ See note 4 above. In section: Recommendations for preventing excess weight and obesity.

performance of occupational work and household chores to recreational physical activity, such as sports and exercise. Decreased physical activity and/or increased sedentary behavior play an important role in weight gain and the development of obesity. For example, the amount of time spent television-watching by young children has shown to be predictive of BMI in later years, and a low level of physical activity during periods of leisure in adults has been shown to be predictive of substantial weight gain (≥ 5 kg) in 5 years' time. A number of studies conducted in Latin America have also reported that inactivity is strongly associated with obesity.

19. A summary of the evidence related to physical inactivity in the Region of the Americas indicates that:¹⁸

- People of all ages lead inactive lifestyles.
- More than two-thirds of adults do not engage in regular physical activity.
- Physical activity decreases with age.
- Women tend to be more inactive than men.
- Low-income and less educated sectors are more inactive.

Early Growth Factors

20. Intrauterine growth retardation (IUGR) and large size at birth ($\geq 4,000$ grams) have been implicated in association with noncommunicable diseases (NCD) such as stroke, diabetes, and hypertension, later in life and possibly obesity. The rapid catch-up growth that follows growth deficits in early childhood has also been implicated as a causal factor. The epidemiological evidence for the latter is considerable but is stronger for the risk of NCD development than obesity. Current efforts to prevent and control stunting in the Americas, chiefly with the goal of promoting optimal development, improved work capacity, and better obstetric outcomes, provide additional support for continuing public health efforts in this area.

21. In the same vein, to the well-known benefits associated with exclusive and prolonged breastfeeding, the probable effects in preventing chronic diseases and obesity can now be added. This provides another opportunity for building a common nutritional platform in transitional societies in the Region now facing the double burden of disease.

¹⁸ Pratt, Jacoby & Neiman. The challenges of promoting physical activity in the Americas, Working Paper to the WHO/PAHO Regional Consultation of diet, physical, activity and health, San José, Costa Rica, April 2003.

22. The link between early growth factors and the development of obesity remains an area of ongoing research. What is not controversial is the fact that obesity during adolescence is highly associated with obesity later in life. Given that obesity rates are rapidly increasing as the population ages, efforts to control the problem at the early ages and at the school-age level hold great promise.

Environmental and Societal Influences

Economic Development and Rapid Nutritional Transition

23. In most of the world's developing countries, economic growth, industrialization, and widespread trade have brought a number of improvements in the standard of living and in the services available to the population. However, it has also produced various negative consequences, including harmful nutritional and physical activity patterns.

24. Today's food systems based on an industrial approach to agriculture make most types of foods available year-round regardless of season. In addition, the supply of high-energy and high-fat processed foods is growing at a rapid pace. While this phenomenon has contributed to improved food availability, it has not necessarily addressed the problem of undernutrition, nor has it improved the overall nutritional quality of the food supply.

25. The decline in energy expenditure that has accompanied modernization is evidenced by a more sedentary lifestyle in urban areas. Motorized transportation, low-density urban developments (urban sprawl), mechanized equipment, and labor-saving devices have freed people from performing physically arduous tasks and otherwise discouraged simple activities such as walking, bicycle-riding, and stair-climbing. Moreover, leisure time is now increasingly dominated by television-viewing and other physically inactive choices.

Social Class and Education

26. By adopting healthy dietary practices and engaging in more physically active living, the highly educated segments of middle-income societies, in most of the world, have escaped some of the negative consequences of economic growth. Such behavioral changes explain in part the weight reduction observed especially among high-income women, as in the case of Brazil, where obesity rates have decreased from 13% to 8% over the last 30 years.

27. Although many health gains can be achieved through better education and broader access to information on the benefits of healthy food choices and sustained physical

activity, these are unlikely to stall the obesity epidemic in and of themselves. The tobacco control campaigns in the United States are a good example of how a combination of policies, taxes, and restrictions such as the ban on smoking in public areas, coupled with intensive communication campaigns, can bring about behavioral change.

Culture and Personal Beliefs

28. Specific attitudes towards health, fitness and activity, and body image in some cultures may also lead to behaviors associated with the development of obesity. For example, among some indigenous populations in Latin America and the Caribbean, an excess in body weight is perceived as desirable and an indicator of health and well-being.

Health Consequences of Obesity

29. The health consequences of obesity are numerous and varied, ranging from an increased risk of premature death to several non-fatal but nonetheless debilitating conditions that adversely impact on the overall quality of life.

30. It is now a well-known fact that the longer the duration of obesity, the higher the risks of mortality and morbidity. For example, severe obesity is associated with a 12-fold increase in mortality in 25–35 year-olds compared with lean individuals. It is also important to note the increase in mortality with increased relative body weight in both men and women under age 50.

31. The risks of suffering from diabetes, gallbladder disease, dyslipidemias, insulin resistance, and sleep apnea are greatly increased in the obese population (relative risk [RR] greater than 3). The risks of chronic disease and osteoarthritis are moderately increased (RR 2-3), and the risks of certain cancers, reproductive hormone abnormalities, and low back pain are slightly increased (RR 1-2).

32. Although there are many health problems associated with child obesity, the most important long-term consequence of childhood and adolescent obesity is its persistence into adulthood, with all the associated health risks. Obesity is more likely to persist when its onset is in late childhood or adolescence.

33. Obesity is highly stigmatized in many industrialized societies, in terms of both negative perceptions regarding bodily appearance and generalized attitudes that stereotype obese individuals as lazy, weak-willed, and unhygienic in their personal habits. The resultant discrimination often serves to deter this segment of the population from seeking much-needed medical assistance for their condition, including treatment for depression and eating disorders.

Economic Costs of Obesity

34. Studies estimating the cost of obesity to society are scarce. The few existing ones have been conducted in developed countries and provide critical input to health care providers and policymakers.

35. Studies reported by WHO in 2000 (i.e., in Australia, France, the Netherlands, and the United States) indicate that 2%-7% of national health care costs can be ascribed to treatment and control of overweight and obesity; the highest cost (US\$ 46,000 million) was incurred in the United States. Recent estimates (2001) from the Medical Expenditure Panel Survey in this country indicate that costs for inpatient and ambulatory care are increased by \$395 per year per obese individual, while smoking causes a \$230 increase and aging a \$225 increase. In relative terms, obesity increases health care costs by 36% and medication costs by 77% as compared to those for an individual of normal weight.

36. Rough estimates of the cost of obesity treatment in Peru suggest that if drugs were hypothetically used as the principal intervention, the effort would cost approximately 50% of the current national health budget. In the United States, estimates from the Centers for Disease Control and Prevention (CDC) suggest that medically treating obesity in this country would equal \$55 billion annually, representing more than half of current annual expenses in treating major chronic conditions.¹⁹

Economic Costs and Benefits of Obesity Treatment and Prevention

37. There are very few studies that address the issues of economic costs of specific obesity treatment and preventive interventions. Most are cited in the WHO technical document but are marred with several technical flaws that prevent definitive conclusions. However, studies related to diabetes control and obesity prevention suggest that public health interventions, i.e. mass media campaigns and group counseling programs, might result in net savings after considering operational program costs. Furthermore, preventive strategies may be more cost-effective, considering the extraordinary costs involved in providing discretionary treatment services such as those currently employed in developed societies, where new technologies and drugs continuously exert a sizeable pressure on health costs.

¹⁹ Chronic Disease Notes & Reports, CDC, Vol 13, No 1:2, Winter 2000.

Prevention and Control of Obesity in Populations: Making Healthy Choices Easier Choices

38. Prevention strategies tend to be favored today on both technical and financial grounds. Nearly one in two adults in the Americas is overweight (BMI >25kg/m²). There is increasing awareness that preventive interventions work, and treatment costs are beyond the financial means of individuals and the public health systems in most middle- and low-income countries.

39. Large-scale interventions to prevent and control obesity nationally suggest that obesity prevention at the population level may be difficult to achieve in the short term and that the promotion of healthy diet and physical activity should not exclusively focus on obesity control but on changing inadequate dietary and physical activity patterns, as well.

Promotion of Physical Activity as an Everyday Lifestyle

The New Paradigm in Physical Activity Promotion: Moderate Physical Activity

40. Sedentary lifestyles are not simply a matter of individual choice. Traditionally, studies on determinants of physical inactivity have emphasized individually assessed variables (e.g. gender, cultural factors, age, perceived barriers, etc). However, it is increasingly evident that these variables explain only a small portion of the variance in physical inactivity. Environmental factors, such as accessibility to recreational spaces, opportunities for physical activity, aesthetic factors, climatic conditions, and safety concerns provide clearer explanations for physical inactivity patterns.

41. Today's cities are designed for motorized transportation, and technology continues to introduce new and improved mechanized equipment and labor-saving devices both in the home and the workplace. Urban planners, environmentalists, and transit and sports authorities are, in many cases, already inadvertently converging in their work to create a "better place to live," providing a prime opportunity for the development of broad and all-inclusive public coalitions to promote physical activity as an everyday lifestyle for their respective communities.

42. The present goal of thirty minutes of moderate physical activity most days of the week is based on strong evidence from several epidemiological and clinical studies and provides a reasonable starting point for the large majority of inactive adults. However, it is important to stress that if weight control and weight stability is the target, a greater amount of exercise is needed. This may require physical activity of moderate-vigorous

intensity for a period of time ranging from 60-90 minutes daily.^{20, 21} The physical and mental health benefits of moderate and regular physical activity (e.g. walking and bicycle riding) are similar to the benefits for a structured approach to physical activity (e.g. aerobics or practicing sports.) Furthermore, lifestyle interventions, such as those described above, can be easily integrated into daily life.

43. Lifestyle interventions at the population level result in positive health outcomes. For example, an association between obesity rates and nonmotorized transportation has been observed in several developed countries. In the Netherlands and Sweden, where the rates of pedestrian walking and bicycle riding are highest, obesity is less of a problem than in other car-bound societies, such as those in Canada, the United Kingdom, and the United States.

The Importance of Cities in Physical Activity Promotion

44. Communities and local governments in the Latin American and Caribbean (LAC) countries are already engaged in creating healthier environments and investing local resources to promote exercise and physical activity in their communities. It is important to raise greater awareness about and reinforce these achievements and to work further to effectively and efficiently orient efforts in promoting active living and better health.

45. Municipal and local governments play a key role in fostering the public health agenda of physical activity promotion for the following reasons:

- They are already involved in improving recreational public spaces and sports;
- They have decision-making power over the physical environment, transportation systems and public safety and have influence over the legislative process;
- City governments can bring together different partners to build coalitions; and
- In most cities, there is already an important demand from the public for actions on issues related to transportation, recreation, crime control, etc.

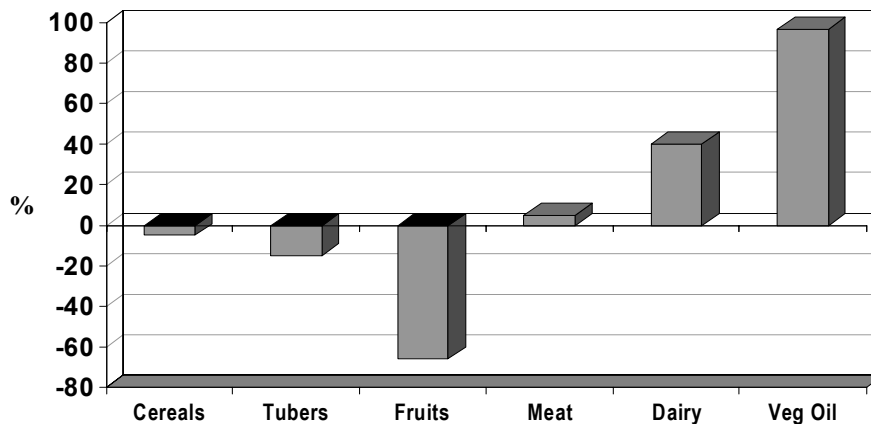
²⁰ Erlichman et.al. Physical Activity and its impact on health outcomes. Paper 2: prevention of unhealthy weight gain and obesity by physical activity: an analysis of the evidence. *Obesity Reviews* 3:1-15, 2002.

²¹ Pratt, Jacoby & Neiman. The challenges of promoting physical activity in the Americas, Working Paper to the WHO/PAHO Regional Consultation of diet, physical, activity and health, San José, Costa Rica, April 2003.

Promotion of Healthy Diet

46. Food consumption patterns have undergone dramatic changes in LAC countries over the last two decades. Figure 3 exemplifies the detrimental changes of abandoning vegetables and other traditional or natural foods and the increased consumption of refined grains, oils, and meats. Lower prices of these latter foods coupled with powerful marketing strategies are key mechanisms in shaping food consumption behavior.²²

Figure 3. Changes (%) in the consumption of various food groups in seven Brazilian cities, 1962-1988



Source: Adapted from Monteiro C, 2000

47. The growing dominance of industrial development in agriculture is associated with a focus on a small number of highly profitable produces, curtailing the production of various vegetables and some cereals. In fact, the decreasing availability of fruits is a serious problem that has recently drawn the attention of WHO.²³ In Europe, for instance, nearly 14 countries have a per capita daily fruit availability that is below the recommended 600 grams per day (considering 400 grams per day of edible food).

²² There is a extend list of studies addressing the issues of price and food marketing (including advertising) in connection to changing food habits, among them: The American Academy of Pediatrics, 1990; Dietz & Strasburger, 1991; Center for Science in the Public Interest, 1992; Glanz et.al, 1998; Huang KS, 1998; Nestle M, 2002; Lakdawalla & Philipson, 2002.

²³ Information based in the work by Aileen Robertson (1999) later included in WHO, Diet, Nutrition and the Prevention of Chronic Diseases TRS 916, Geneva 2003 Report.

48. Healthy eating practices should remain as leading principles in drawing recommendations for weight gain prevention and obesity control. Based on the WHO/CINDI dietary recommendations (WHO, 2000) and the Latin American food-based dietary guidelines (PAHO, 2000) the main recommendations can be summarized as follow ²⁴: (1) Improve consumption of fruits, vegetables, nuts and unrefined grains; (2) Choose fish and poultry over red meats; (3) Increase consumption of milk products, specially those low in saturated fat; (4) Consume healthier vegetable oils (mono- and poli-unsaturated) in moderation; and (5) Reduce salt in cooking and at the table, and avoid regular consumption of drinks high in free-sugars.

49. It is apparent that improvements in food consumption patterns, particular among lower income sectors, much need to be done in the areas of production and commercialization of foods. In fact, healthy public policies are needed to foster local production and markets for healthy foods, besides education and communication. Further study is required in the areas of regulation and taxation aimed at modifying food preferences and dietary behavior.

The Response of the Pan American Health Organization

50. World Health Day 2002 was dedicated to the theme of physical health, under the slogan “Move for Health”. For this day, PAHO mobilized the countries of the Americas to increase awareness, educate, and encourage communities and individuals to promote physical activity. PAHO, in partnership with the CDC, also sponsored a highly successful Active Cities Contest to recognize selected cities throughout the Region for their efforts in promoting health by improving public spaces for safe recreation and promoting physical activity.

51. In May 2000, the Fifty-third World Health Assembly adopted Resolution WHA53.17 endorsing the WHO Global Strategy for the Prevention and Control of Non-communicable Diseases. The strategy emphasized integrated prevention by targeting three main risk factors: tobacco, unhealthy diet, and physical inactivity. Two years later, the Health Assembly adopted Resolution WHA55.23 to develop a Global Strategy on Diet, Physical Activity, and Health. In response to these resolutions and in keeping with the effort to improve public health, PAHO is engaged in the process of organizing a broad and inclusive regional consultation to obtain stronger evidence for policy, increased advocacy for policy change, and stakeholder involvement, and a strategic framework for action. The regional consultation is scheduled to be held during 2003.

²⁴ These recommendations have been included in the PLANUT software developed by PAHO to promote better dietary recommendations in the Region.

52. Both the World Health Day 2002 and the Global Strategy on Diet, Physical Activity, and Health provide significant momentum for advancing the agenda on the prevention and control of obesity.

Proposed Actions

Elements of a Multipronged Approach

53. To address this extensive problem of obesity, public health authorities must consider the multiple facets of the issue:

- There is need for increase public health resources in promotional and preventive programs;
- Health systems need to develop sound and effective programs and clinical protocols for obesity prevention and control;
- Emphasis on creating environmental conditions for behavioral change, e.g. greater accessibility to fruits, vegetables, whole grains, and nutrient-dense foods, and better physical environments for recreation and physical activity;
- Integration of public health areas of NCD and obesity prevention;
- New alliances and partnerships with key nonpublic health sectors; and
- More and better data to demonstrate that obesity is a problem at the state level.

Priority Actions

54. Priorities in promoting physical activity should include the following considerations:

- *The key recommendation* is the promotion of thirty minutes a day of moderate physical activity at least five days of the week.
- *Physical activity as an everyday lifestyle (recreational and utilitarian)*. The creation of a physical and regulatory environment that favors walking and bicycle riding in the cities is critical.
- *Physical education and sports in the schools*. PE must be defended in the Region as it promotes physical growth, child development and school achievement;

- *Development of sound programmatic approaches.* Although the effectiveness of some interventions has been well documented, most fit the reality of developed countries. Adaptation of those programs to Latin America and the Caribbean countries conditions is necessary²⁵; and
- *The need for expanded partnership.* Key sectors are education, sports, transportation, local governments, and the private sector.

55. Priorities in promoting healthy eating should include the following considerations:

On the supply side:

- Stimulate partnerships with the private industry for increased production and better prices for fruits, vegetables, and unrefined grains;
- Gain the collaboration of the food industry to increase the market supply of processed foods of high nutrient content, as fat-free dairy and unrefined cereals;
- Studies regarding the role of globalization and agro-business on food production, availability and consumption; and
- Review existing evidence and promote the necessary studies in order to stimulate informed action regarding the role of marketing and advertising on food preferences of the population, especially children.

On the demand side:

- A stronger consumer voice through the provision of systematic information by health and consumer organizations;
- The creation of incentives for local food production better integrated to national plans;
- The promotion and defense of healthy regional and national food traditions;
- Stimulate additional research on food policy and nutrition; and

²⁵ Note that the key missing area of research, from an implementation view point, are effectiveness trials (interventions tested under real conditions) not efficacy trials (aimed at ascertaining health effects of interventions or treatments under ideal conditions).

- Active participation in the Codex Alimentarius commission of sectors related to health and nutrition.

Action by the Executive Committee

56. The Executive Committee is asked to discuss the issues presented in this document and to consider the importance of Member States setting national priorities to address the problem of obesity within the following context:

- Overweight and obesity, along with physical inactivity and poor quality diets, are a serious public health threat in the Region;
- Governments should orient actions to make healthy choices the easiest choices for all through the promotion of healthy diets and active living as key preventive approaches;
- There is a need for an integrated nutritional approach and close coordination with NCD prevention/control efforts already underway;
- Applied and operational research should be encouraged in order to develop effective interventions to stimulate healthier eating and more active living; and
- The development of strategic, multisectoral alliances and partnerships interested in promoting the health, and well-being of the population is critical for increasing the issues profile and strengthening its place on political agendas.

57. The Committee is also requested to provide guidance on the involvement of Member States in the process of the WHO Global Strategy on Diet, Physical Activity, and Health.