

## **Deconstructing common sense on childhood obesity\***

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\* This article is an analytical article and it was elaborated by the authors without financial support, but as part of the ongoing efforts to study the ideological process that masks inequalities in nutritional problems among disadvantage children in the United States, but also in Latin American countries that assume the same hegemonic ideology. We started these analyses in 2007 and the article represents a deep analytical process that the team was developing while working in funded studies, some of them already published and included as references.

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## **Deconstruyendo el sentido común en torno a la obesidad infantil**

### **Resumen**

Diversas cuestiones contribuyen a la creación de la obesidad infantil como un problema de salud/enfermedad: la utilización del paradigma individual/biomédico/conductista para dar respuesta a problemas sociales; la difusión de los percentiles del Índice de Masa Corporal para medir su prevalencia; la construcción de la obesidad como desequilibrio calórico y no como problema nutricional; y la difusión de intervenciones para educar individuos. Este discurso medicaliza la obesidad, encubre la comprensión de los problemas nutricionales independientemente del peso, y esconde las desigualdades nutricionales en la infancia. Para cambiar la perspectiva analítica, analizamos críticamente el sentido común hegemónico en obesidad infantil y proponemos utilizar los conceptos de biomedicalización y biopedagogía para explicar la situación y desenmascarar los procesos de gobernabilidad biomédica.

**Palabras claves:** **Obesidad** infantil – nutrición – sentido común – biomedicalización – desigualdades

## **Deconstructing common sense on childhood obesity**

### **Abstract**

Several issues contribute to the creation of childhood obesity as a health/disease problem: the utilization of an individual/biomedical/behavioral paradigm to address societal problems; the diffusion of the Body Mass Index (BMI) percentiles to measure its prevalence; the construction of obesity as a caloric imbalance and not as a nutritional problem; and the dissemination of interventions based on educating individuals. This discourse medicalizes obesity, masks the understanding of nutritional problems at all weight statuses, and hides childhood nutrition inequalities. To shift the analytical perspective, we critically analyze the hegemonic common sense on childhood obesity and propose to utilize the concepts of biomedicalization and biopedagogy to explain the situation and to unmask the process of biomedical governance.

**Keywords:** Childhood obesity – nutrition – common sense – biomedicalization – inequalities

## **Desconstruindo o senso comum sobre a obesidade infantil**

## **Resumo**

Diversas questões contribuem para que se considere a obesidade infantil como um problema de saúde/doença: a utilização de um paradigma individual/biomédico/comportamental para dar resposta a problemas sociais; a difusão dos percentis do Índice de Massa Corporal para medir sua prevalência; a construção da obesidade como uma questão de desequilíbrio calórico e não como problema nutricional; e a difusão de intervenções para educar indivíduos. Este discurso medicaliza a obesidade, encobre a compreensão dos problemas nutricionais independentemente do peso, e esconde as desigualdades nutricionais na infância. Para mudar a perspectiva analítica, analisamos criticamente o sentido comum hegemônico em relação à obesidade infantil e propomos utilizar os conceitos de biomedicalização e biopedagogia para explicar a situação e revelar os processos de governabilidade biomédica.

**Palavras-chave:** obesidade infantil – nutrição – sentido comum – biomedicalização – desigualdades

**1. Background. - 2. The common sense of childhood obesity. - 3. Critical analysis of common indicators on childhood obesity. - 3-a. US Growth Charts, BMI, and BMI percentile. - 3-b. Reference values not standard values. - 3-c. BMI, weight, fatness, and health. 3-d. BMI and ethnicity. - 4. Common sense and the biomedicalization of childhood obesity. - 5. Conclusion. – List of references**

## 1. Background

Public health researchers and practitioners have an enormous responsibility in producing and reproducing the dominant discourse on childhood obesity. This discourse conceives childhood obesity as a public health problem of epidemic consequences, which will condemn new generations to an adulthood afflicted by life-threatening chronic diseases and one which will end earlier than their parents, among other alarming ideas. This discourse is produced and reproduced by the academia, governmental agencies, private foundations, non-governmental organizations, and other groups involved in this field. The message is spread through governmental and private websites, other media means, educational and community settings, and health care services.

As academics in the field of public health, coming from a social sciences background, and after observing the ideological veil that the dominant discourse has put on well-intentioned health practitioners, public health researches, teachers, policy makers and other people interested in the wellbeing of children, we recognize the importance of sharing our experiences to add our voices to those working in the field of “critical weight studies.” These critical analyses come from social sciences, law, feminist studies, few from disciplines related to healthcare, mostly dieticians, but very few from public health, including epidemiology.

During the last decade important critical analyses of the dominant conceptualization of obesity were published. Several authors have contributed to challenge the medicalization of weight and fatness; the conceptualization of epidemic and the epidemiological data that associate weight with diseases; the declared causes and consequences of the global crisis on obesity; the efficacy and safety of the solutions; the moral connotation of the discourses about obesity and the political consequences of governmental support of research and interventions that reinforce this approach as scientific and undisputed, among other substantial analyses (Rich et al., 2011<sup>†</sup>). Other authors concentrate in studying how the dominant conceptualization of obesity create

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<sup>†</sup> We cite the entire book because the listed topics are from chapters contributed by several authors. Contributing authors include Lucy Aphramor, Paul Campos, Rachel Colls, Charlotte Cooper, Laura De Pian, Bethan Evans, John Evans, Jaqui Gingras, Michael Hardey, Helen Malson, Lee Monaghan, Emma Rich, and Irgmgard Tischner.

profitable opportunities for the media, the weight-loss, food and beverage industries, and the medical industrial complex (health care services, pharmaceuticals, and other related industries) (Gaesser, 2002; Olivier, 2006; Nestle 2007). In addition, some authors have studied how young people are exposed to an unrealistic body image that could produce more harm than benefit, resulting in eating disorders associated with weight-loss, and other psychological problems (Gard & Wright, 2005; Campos 2004).

In previous studies, we questioned whether a focus on weight as a health problem is masking other serious nutritional problems. For example, a study we conducted analyzing the US National Health and Nutritional Survey (NHANES) showed that Hispanic children from disadvantaged social groups were differentially affected by chronic malnutrition disregarding weight status (Iriart et al., 2011). We observed that children categorized as “healthy weight” were more affected than those in the overweight/obese category. This finding confirmed our concerns that the conceptualization of childhood obesity as a public health problem is masking nutritional deficiencies that are important for child development. From there, we furthered our analysis studying micronutrient deficiencies and we were able to show similar inequalities on ethnicity, gender, age, and family socioeconomic and educational conditions, and food insecurity that children are confronting in the United States (Iriart et al., 2013).

These studies increased our concerns about how well-intentioned people could be causing more harm than good, thus contributing to the masking of other social and political problems affecting the development of children and the stigmatization of some social groups. For this reason, in this article, we focused on deconstructing the common sense that reinforces a discourse that legitimizes the concept of childhood obesity as a public health problem of epidemic consequences.

As well documented by the above referred critical authors, several issues contribute to the creation of obesity as a health/disease problem, among them, the utilization of an individual/biomedical/behavioral paradigm to disseminate obesity as a population health problem; the diffusion of the Body Mass Index (BMI) as a valid measure of health status related to weight; the construction of the problem as a caloric imbalance eliminating the concern about

nutrition; and the predominance of financial support for interventions to educate individuals to decrease caloric intake and increase physical activities. Following Berman (2011), an individual/biomedical/behavioral paradigm emphasizes the use of medical screening and testing as an approach for early identification of risks transformed into conditions/diseases. In our example, we can relate this approach to the use of BMI percentiles for identifying prevalence of childhood obesity in a population. Once the problem is identified, the prescribed treatment relies mostly on behavioral changes, ascribing the primary responsibility of prevention and control to individuals. This dominant perspective now disseminated over the past several decades has helped to mask the understanding of nutritional problems at all weight statuses and consequently hiding childhood nutrition inequalities, among other serious health and social inequalities.

This article will problematize the common sense prevailing in the field of childhood obesity that obscures the understanding of childhood nutrition inequalities. The concept of common sense developed originally by Gramsci ([1929-35] 1992) will help in understanding how the problem of childhood obesity, as currently defined, was built and why to problematize the dominant paradigm may allow us to consider other issues masked by the dominant discourses. We will use problematization as a method of criticism and as a mode of analytical inquiry (Rabinow, nd). We propose to critically analyze common indicators and definitions used in analyzing childhood obesity to question the unequivocal dominance of one mode of signifying meaning over others which is presented as the scientific truth regarding childhood obesity (Hardwood, 2009).

Indeed, we will discuss how the dominant scientific paradigm and the common sense built on childhood obesity radicalize the medicalization of childhood obesity and how the utilization of biopedagogies reinforces it. Biomedicalization and biopedagogies, as we will see later in this article, are concepts based on Foucault's theory of biopower, which implies the governance of individuals and populations utilizing body measurements, surveillance, and a moral mandate to be healthy according to the scientific discourse established as the truth (Rabinow & Rose, 2006). The biomedicalization is favored by a capitalist stage that requires new strategies to expand profits creating new markets and more consumers. The commodification of

health promotion, prevention, and care has created a profitable market that can be expanded not just treating sick people, but healthy ones at all ages (Iriart et al., 2011).

## **2. The common sense of childhood obesity**

Ideas become common sense to the extent that they become real, shared meanings providing directions for society, and acting as social cement that fills gaps and artificially softens social contradictions (Benasayag & Charlton, 1991). Common sense shapes the subjective assessment of a shared situation by people in different places in the social structure. In this conceptualization we differentiate common sense from critical thinking. Critical thinking requires reflection to be produced, while common sense produces the illusion that we are expressing something that is “normal and natural,” not requiring reflection. Common sense is developed through a combination of personal experiences and repetition of social discourses (Iriart et al., 2001). In the case of childhood obesity, on the one hand, school teachers and health providers indicate that they are seeing an increased number of obese/overweight children, drawing attention to this issue to communities and educating children and parents on how to deal with it at individual level. On the other hand, the media (TV, newspapers, radio, worldwide networks, magazines, etc.) spread information about childhood obesity and loss weight solutions. Governmental agencies and political leaders are involved in creating awareness about childhood obesity and reinforcing the need for families and community organizations to take action to tackle the “problem” (Let ‘s Move, 2012; CDC 2012a). Little by little, more and more people are repeating reflexively the information received, which creates the idea of a consensus about the problem and consequently the creation of a new scientific truth (Hardwood, 2009). This truth includes the recognition of childhood obesity as a serious health problem, the hegemonic definition of its causes (caloric imbalance), and the kind of interventions needed to resolve it, which predominantly are related to nutritional and physical activity education for children and parents.

Throughout our analysis of the construction of common sense, we will focus on the United States (US) because the dominant paradigm described above has been developed and promoted in this country and extended to others, creating the same type of reductionist

interpretation focused on childhood obesity as a public health problem (Commission of European Communities, 2007; México Secretaría de Salud, 2010; UK Department of Health, 2011). A particular moment that is important in the construction of the common sense regarding childhood obesity is when at the end of 1990, the US started to publicly present national data on the prevalence of obesity. Despite that the data published showed that children were gaining weight since the 1980s, it was not until 1999 that CDC defined obesity as a disease/condition of epidemic consequences (Jutel, 2006). But in addition to declaring the epidemic, the CDC started to present the data in a series of maps that showed changes over time in a graphic and simple format that was useful for attracting media attention (Mokdad et al., 1999). Although these maps, with general averages of obesity in the US population, were very effective in drawing attention to obesity as a public health problem, they did not result in a better understanding of the structural causes of malnutrition. But the public availability of the maps also facilitated the dissemination of the obesity problem in educational and professional settings, deeply impacting these audiences and facilitating the creation of a feeling of urgency in developing interventions.

Thus, what we have observed is that the information spread by the media commonly has taken the form of short reports of “scientific studies” without critical analyses regarding the methodology utilized, the authors’ affiliations, and other concerns that researchers address when reviewing scientific analyses or grey literature. The public receives the information without any explanation regarding statistical assumptions, or other methodological and conceptual considerations that could modify the understanding of the results. The communicational mechanisms utilized by the media facilitate the non-reflective assimilation of its discourses. These mechanisms are also adopted by governmental organizations to spread information about childhood obesity (CDC, 2012b).

Mobilizing people around health problems using simple visual tools and indicators, and average general data has, according to their supporters, important advantages. In the case of childhood obesity, the pros, according to these proponents, are that the general population, government officials, policy makers, and other stakeholders become aware of this important public health problem and can begin to develop interventions. But we posit that the diffusion of



information about childhood obesity hides structural causes of food access and childhood inequalities on nutrition that affect child development. Furthermore, the messages that link obesity with increases in the prevalence of several chronic diseases produce a sense of urgency that stimulates practitioners (physicians, nurses, teachers, etc.) to develop school- and community-based interventions. The problem then lies in that much of the time these professionals do not take into account causes at a societal level and become agents that uncritically reproduce the dominant discourse on childhood obesity (Azarito, 2009).

The next section will critically analyze the more common indicators and reference values used for analyzing prevalence and trends in childhood obesity that favor this dominant approach and obscure the social and political causes of childhood malnutrition. We will center the analyses on the 2000 CDC US growth charts and BMI percentiles. These charts and percentiles establish a reference measurement for the US population defining the weight status of children and adolescents between 2 and 19 years old based on specific BMI-for-age and -sex. However, several countries utilize these charts, and the BMI percentiles elaborated from them, when measuring national trends on childhood obesity. Other countries have developed their own growth charts or utilize those elaborated by the WHO, which have similar limitations because all of them are crude measures based on weight and height.

### **3. Critical analysis of common indicators on childhood obesity**

A central step in deconstructing the common sense on childhood obesity is to analyze some concepts and indicators that are commonly, but not carefully, used or understood, thus contributing to masking important nutritional problems and social inequalities. The utilization of these indicators facilitates the reflexive use of the data, and the unquestioned acceptance of the conceptualization of childhood obesity as a public health problem, as well as the interventions to resolve it. This is particularly true, for example, in the use of BMI and BMI percentiles and the meaning of reference values. Practitioners and researchers present data to the public without clear explanations of the meaning of these commonly used indicators. In trying to facilitate an easy comprehension of the problem the idea that prevails is to simplify presentations, show general averages, and present the indicators as objective and undisputed measures. By doing so,

it contributes to the cycle of reinforcing the common sense notions around childhood obesity which then impacts the focus of subsequent scientific studies and research, as well as funding priorities, and to an emphasis of publications that use these indicators.

In this section we will analyze documents and studies developed by the authors of the CDC US Growth Charts and other recognized researchers in the field of childhood obesity. We think that it is important to use the publications of the recognized voices in the field of childhood obesity when deconstructing the common sense, because they show that several of the assumptions that the dominant discourse spread, are not sustained by some of their own statements.

### **3-a. US Growth Charts, BMI, and BMI percentile**

The 2000 CDC Growth Charts for the US for infants, children, and adolescents is recommended for clinical practice and research to assess the size and growth of children, replacing the 1997 NCHS growth charts. These growth charts were developed from five nationally representative surveys: two National Examination Surveys in the 1960s, two National Health and Nutrition Examination Surveys (NHANES) in the 1970s, and the survey in the late 1980s and early 1990s (NHANES III) (Kuczmarski et al., 2002).

The growth charts defined the BMI as a measure of weight in kilograms divided by height in meters squared to be used to determine weight status. For children, the CDC also established the BMI percentile that indicates the relative position of a child's BMI number among children of the same sex and age. Age and sex are considered for children and adolescents because the amount of body fat changes with age and the amount of body fat differs between girls and boys. In establishing the cut off percentiles, CDC experts explain that they excluded the NHANES III (1988-1994) and all data from later surveys for children aged six and older because of the rapid increase in body weight observed beginning in 1980. As Ebbeling and Ludwig (2008, p. 2442) observe, "the data utilized was collected at a time when BMI percentile were relatively stable and obesity was not considered a public health problem, consequently the current growth charts do not describe current distribution of BMI for age and sex." The reference values established by the CDC in 2000 theoretically assume that 5% of the population between 2 and 19 years old is

underweight, 80% is at healthy weight, 10% is overweight, and 5% is obese.

### **3-b. Reference values not standard values**

The previous described theoretical definition moves us to analyze the difference between reference and standard values. As expressed by the CDC, “body mass index is a *practical* [emphasis added] measure used to determine overweight” and the growth charts are a growth reference, not a standard. A reference provides a common basis for comparison: “What is.” A standard embodies the concept of a norm or target, which implies a value judgment: “What should be” (Kuczmarski et al., 2002, p. 14). As Flegal et al. (2006) indicate, a reference value derives from a statistical definition and incorporates arbitrary assumptions. This is the type of information that is not considered and explained by the media, including governmental websites and other forms of communicational mechanisms that they use, or by some public health practitioners in public presentations when reporting prevalence data and other studies to justify that childhood obesity is a serious public health problem. In our experience participating in presentations of childhood weight status, people (lay, health providers, and public health researchers) tend to confuse these reference values with the normal distribution of the weight to be reached by specific populations. Thus the observed difference between the references values and the school data prove for them the magnitude of the problem and the need of intervening.

Moreover, it is important to consider that when a new reference value is officially adopted in a country this action has important consequences because changing the statistical assumption that defines each weight category will determine the number of children included in each category. This will modify the magnitude of the problem at the individual and population levels. As an example, we can see that when, in 1998, the US adopted the new BMI for adults developed by the World Health Organization (WHO), 30 million additional people were classified as overweight/obese (Geyman, 2002).

In addition, as indicated by Odgen et al. (2007) no widely accepted international reference values for defining overweight in children and adolescents are in place. There are a variety of reference percentiles based on BMI in various populations that could be used to define child overweight and obesity. The terminology and the methodology in this field are not well

standardized. The WHO established a different reference value that was adopted in several countries. Other countries created their own reference values, such as the United Kingdom. Studies comparing child overweight prevalence using different reference values show different results (Wang & Wang, 2002, Flegal et al., 2001) As Flegal et al. (2001, p. 1093) state the differences in the reference values are based on differences in data sets, smoothing methods, and theoretical approaches. These authors also indicate that all methods should be used cautiously because there is not a perfect method; each one has advantages and limitations.

These differences are important to understand because these reference values, as well as childhood obesity prevalence data, are built using methods based on statistical assumptions that differ among countries and studies. In any case, prevalence data should not be taken as objective and undisputed. The next points provide further explanations for these statements.

### **3-c. BMI, weight, fatness, and health**

Critical analysis of the cited authors' work (Ebbeling & Ludwig, 2008; Gallagher et al., 2000; Ogden et al., 2008) supports our statement that BMI and BMI percentiles are indicators for body weight, not body fatness, and that the terminology in use –“overweight” – is based on weight, not on adiposity *per se*, and for different studies the same terms could have different meanings. According to these authors, strictly speaking, obesity refers to excess body fatness, and overweight refers to excess weight in relation to a weight reference. However, the 95<sup>th</sup> percentile as a cut off for obesity does not measure excess of fat, it measures excess of weight, which could be related to fat, lean mass, or bone structure. The authors state that the current definitions of “overweight” and “obese” are working definitions developed to be used for public health surveillance and screening purposes, but they do not define physiological status *per se*. Furthermore, they indicate that measurement of body fatness is difficult both in clinical applications and population studies because well-established standards are not in place for body fatness, either for children or adults. Indeed, there is not a standard definition of adiposity or excess of body fat in childhood against which given BMI levels can be compared. Individuals with a significant amount of lean mass will have larger BMIs, which do not indicate an unhealthy level of fat. These clarifications are important because the studies that report

overweight/obesity general prevalence show more boys than girls classified as overweight/obese. In our literature review we did not find articles problematizing the validity of the results by questioning the possibility that boys could be heavier than girls because the amount of lean mass or bone structure, not fat.

In addition, the BMI in a child does not define future health risks (Flegal et al., 2006, Ogden et al., 2007). As Ebbeling & Ludwig (2008) state, BMI does not provide direct information about body composition (fat vs. fat-free mass) or fat distribution (e.g. central vs. peripheral), both of which, according to them, are major predictors of disease. In addition, body composition and central adiposity in children vary greatly at any given BMI. According to these authors (p. 2442),

numerous variables confound the association of BMI with adiposity and adiposity with risk. Clearly, physical activity can increase the ratio of lean to fat mass and decrease risk for cardiovascular disease without a change in body weight. Diet quality profoundly affects chronic disease risk at any BMI, and recent research suggests that nutritional factors also affect body composition when controlling for body weight. Remarkably, psychological stress may promote central fat deposition in adolescents independent of BMI.

In the words of the Childhood Obesity Task Force of the US Preventive Services Task Force (Moyer et al., 2005, p. 236),

We do not know the best way to identify children who are at risk for future adverse health outcomes due to obesity or overweight. Although BMI is a convenient and widely agreed-on measure of obesity, it is not clear what BMI at a given age is associated with future good health.

Many experts and also the CDC recommend that assessing an individual's health should not rely solely on the BMI, but should include other factors, such as waist size, waist-to-hip ratio, blood pressure, cholesterol level, blood sugar, diet, physical activity, family history, and other appropriate health screenings. The CDC website states "While BMI is an accepted screening tool for the initial assessment of body fatness in children and adolescents, it is not a diagnostic

measure because BMI is not a direct measure of body fatness” (CDC, 2008 What is BMI, para. 1). We can find a similar statement in an expert committee recommendation of the American Medical Association (2007). However, despite these statements, the CDC website promotes that the public utilizes the BMI calculator and alerts about several health risks that obese children can confront immediately or in the future as adults (CDC, 2012b).

We recommend caution when reading the studies that suggest a relationship among childhood obesity and several diseases, and more caution when the source of the information is the media reporting research findings. Decreasing calories without paying attention to the nutritional components of the food that specific groups are able to access could be detrimental. Poor quality diets may consist of high caloric intake but may lack micronutrients thereby contributing to the development and severity of diet-related chronic diseases and to deficits in child development and learning capacities (Eckhardt ,2006, Florence et al., 2008). Diseases commonly attributed to overweight/obesity could be caused by the excessive intake of sodium, sugars, additives, artificial products, hormones, etc., not just the amount of calories. However, the governmental agencies in the US are reticent to analyze the role of the subsidies in agriculture that favor some crops in detriment of others, and to regulate the food and beverage industries (Nestle, 2007).

### **3-d. BMI and ethnicity**

With regards to ethnicity, it is important to know that specific racial/ethnic charts are not developed because according to the CDC experts,

children of all major racial-ethnic groups appear to have similar growth potential. Studies have demonstrated that genetic effects on growth are small compared with the effects of the environment, nutrition, and health. Regardless of racial-ethnic status, children provided with good nutrition, access to health care, and good social and general living conditions have similar growth patterns (Kuczmarski et al., 2002, p. 12).

This statement is important because it draws our attention to the lack of contextualization in most of the studies that use BMI percentiles. We are not proposing that specific growth charts

by ethnicity are required, but that it is important to consider the changes in the composition of the populations created by immigration, especially in high and high-middle income level countries. As we saw previously, in developing the BMI percentiles in 2000, the CDC experts made some conceptual and methodological decisions, such as excluding all weight data from children ages 6 and older from the 1988-1994 population survey. This means that the data used to establish the BMI percentiles in 2000 for these children were based on samples of populations that were living in the US during the 1960s and 1970s. The composition of the US population at these times was markedly different regarding social and general living conditions, access to good nutrition and health care than the current population. For example, the proportion of recent immigrants from poor areas in Latin American countries was very small.

Today Latin American immigrants and their descendants comprise the youngest and fastest growing racial/ethnic group in the US and account for 16.3% (50.5 million) of the total population, growing 43% in a decade (Passel et al., 2011). Moreover, another study documented that 52% of the total Latino children in the US were born there of at least one foreign-born parent who migrated from a Latin American country during the immigration wave that began around 1980. In 1980 only approximately 30% of Latino children were second generation, while the rest were in the third generation or higher. Currently, 11% of Latino children are foreign-born, 52% are second generation, and 37% are third generation or higher. Many social, economic and demographic characteristics of Latino children vary sharply by their generational status. First and second generation Latino children are less likely than third or higher generation children to be fluent in English and to have parents who completed high school. Moreover, 34% of first generation Latino children live in poverty, compared with 26% of those in the second generation and 24% in the third generation or higher (Fry & Passel, 2009, p. i).

The importance of the demographic changes in the US population in the last decades in relation to the utilization of the BMI percentiles is that these immigrants could have grown up under detrimental living conditions, including limited access to nutritious food and health care. A third of children younger than 5 years in developing countries have linear growth retardation or stunting (UNICEF, 2004). Height deficit or stunting is defined by CDC as height-for-age less

than the 5<sup>th</sup> percentile. According to a recent study, approximately 13% of Latin American children suffer from chronic malnutrition manifested as stunting (Duran, 2006). Children from immigrant families, including those born in the US, coming from underserved rural or urban communities in developing countries may not reach their growth potential. In such cases, obesity may be masking other problems such as height deficit, or stunting, which may reflect the cumulative effect of chronic malnutrition (Iriart et al., 2011). Moreover, these children could be suffering in the US from the lack of access to nutritious food because poverty, language barriers, immigration status, among other conditions. Latino children from disadvantaged families could be eating high caloric food, poor in nutritional values, which could facilitate that stunted children gain weight but remain undernourished. Some European and Latin American countries, especially those classified as middle or high income countries, could be confronting similar situations because the influx of people from low income countries.

We remark that the concept of chronic malnutrition is important to consider because height is one of the two components used in calculating the BMI. The analysis of chronic malnutrition is essential, because while BMI indicates the correspondence between weight and height at the moment of the measurement, the height-for-age and -sex reflects the nutritional history of an individual (Zuñiga-Herrera, 2005). Height deficit, or stunting, also may include previous generations and may have implications for future generations. In other words, it is a phenomenon that could affect not only people growing up under socioeconomic stress but their future generations (Sawaya & Roberts, 2003).

In this section, we analyzed the literature developed by researchers in the field of childhood obesity to deconstruct common understanding of these indicators. In next section we will analyze the concepts of biomedicalization and biopedagogy that are useful to understand the consequences that reproducing the common sense on childhood obesity has in the lives of people.

#### **4. Common sense and the biomedicalization of childhood obesity**

We consider that the concept of biomedicalization has advantages in relation to the concept of medicalization to analyze the consequences that the dominant discourse on childhood



obesity have on the psychological and physical health of children. The concept of biomedicalization offers a better interpretation of the profound changes operated in the 1990s in the conceptualization of the health-ill-care process. While medicalization implies the expansion of medical interventions to problems previously outside of this jurisdiction, but centered in illness, disease, treatment, and rehabilitation, as well as how to measure them, biomedicalization focuses on health as a moral mandate to internalize self-control, surveillance, and personal transformation (Clarke et al., 2010). Biomedicalization implies a change in relation to the concept of medicalization, in that there is a shift from the growing control of nature (referring to the world around the individual) to the internalization of control and the transformation of the individual and his/her context, thus transforming his/her own life.

The concept of biomedicalization as developed by Clarke et al. (2010) is based on Foucault's theory of biopower and later developments by Rabinow (1995) and implies the governance and regulation of individuals and populations through the construction of the dominant scientific discourse presented as a new truth in a specific field. Advances in biotechnologies and in computer and communication create the possibility for radicalizing the medicalization and creating new subjectivities, identities, and biosocialities. New social relationships are created around and through such identities (Clarke et al., 2010). Examples of these new forms of social relationships are the social networks using websites, blogs, and other internet forums dedicated to health issues. The new public health discourse accompanies these developments stating that people should exercise strict control and vigilance over the risks that could threaten their health by embracing healthy life styles. This requires the biomedicalization of health promotion and prevention, demanding the internalization of the social mandate of being healthy, and of surveillance practices at the individual level (Iriart et al., 2011). The dominant discourse on childhood obesity focuses on educating parents, children, and communities to adopt health life styles to balance caloric intake through diet and physical activity. However, the discourse is limited in its consideration of the dynamic between family subjective and material experiences and their socioeconomic, cultural, and physical contexts, and how this affects

individual/family food access and consumption patterns, and consequently may impact childhood nutrition.

The concept of biopedagogy is another interesting concept that helps to understand how new discourses, following the characteristics described above, regarding health-ill-care are disseminated. This concept, drawing also from Foucault's theory of biopower, is described by Wright (2009) as the normalizing and regulating practices traditionally reserved to schools, but currently appropriated by other learning and communicational spaces, and disseminated more widely through the web and other forms of media. In an interesting movement we can also observe that schools use these communicational tools to educate about topics previously reserved to health professional spaces. The use of biopedagogies in different environments contributes to placing individuals under constant vigilance and towards increased self-monitoring by elevating their knowledge about diseases, conditions, and risks, as well as how to manage them to be healthy. Currently, individuals are stimulated to access widely available tools to understand and change their behaviors, as well as are encouraged to take action to educate other members of their families and communities on how to lead healthy lives (CDC, 2012b). However, our concern is that most of the pedagogical tools reinforce the governance of bodies and provide the social meanings by which individuals come to know themselves and others, but not the social-political causes and needed changes to revert health condition (Halse, 2009).

Advances in computer and communicational technologies are very instrumental in widely spreading concerns about childhood obesity among health providers, teachers, researchers, public health practitioners, stakeholders and policy makers, as well as among the general public. These technologies and the messages about the childhood obesity problem are fed by research data most of the time without the proper context. Alarming relationships among childhood obesity and chronic diseases create a sense of urgency in developing interventions to reverse the trends.

We can agree that increasing access to information about healthy eating and the benefits of physical activity especially among disadvantaged groups could be considered democratic and needs to be welcomed. However, in practice we should critically analyze how the data are

created, and by whom, and what are the interests behind this information, especially if corporations are involved. In addition, the commodification of the information in capitalist societies implies that the access to information is stratified, non-democratic, and differentially affects social groups and countries. People from the lower classes receive messages reinforcing the social/moral mandate to control their weight, eat healthy and increase physical activity so that they do not become a burden to society. For these populations the biopedagogies are implemented at schools, health fairs, community events, and media. Well intentioned professionals working for public health agencies, schools, and non-governmental organizations also reproduce these messages and biopedagogies without understanding how they operate and the consequences for the biomedicalization of life. People will use their limited income in trying to offer specific sets of healthy food to their children and engaging them in paid physical activities. However, as we can observe in health statistics, disadvantaged groups will fail to reach the healthy outcomes of the upper classes, instead they will be left with the guilt of not eating healthy, not exercising, and not having the ability to lead non-stressful lives. The messages hide that most of the health problems of these groups are not caused by their bad genes triggered by inadequate life style habits, but by the unequal distribution of wealth that creates differential “life chances” (Rich et al., 2011).

## **5. Conclusion**

The purpose of this article is to contribute to the voices that critically analyze the field of childhood obesity. The current individual/biomedical/behavioral paradigm has downplayed the role of governmental and corporate policies related to food production, commercialization, and consumption, masking serious health problems such as chronic malnutrition, food access, hunger, and deficits in micronutrients. Young children from disadvantaged social groups that could be suffering from chronic malnutrition and are exposed to poor quality foods may be more vulnerable to weight gain and to obesity and nutrition-related diseases in subsequent years. From a social justice perspective, we think that it is critical to unveil the intense processes of biomedical governance that require the internalization of self-control and self-regulation of bodies.

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