A Tale of Two American Cities: a Look at Lifestyles

Jaclyn Thompson
Western Oregon University

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A Tale of Two American Cities: a Look at Lifestyles

By

Jaclyn E Thompson

An Honors Thesis Presented to the Honors Committee of Western Oregon University
In Partial Fulfillment of the Requirements for Graduation from the Honors Program

Professor Daryl Thomas, Thesis Advisor

Dr. Gavin Keulks, Honors Program Director

Western Oregon University

June, 2010
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A Tale of Two American Cities: a Look at Lifestyles

Introduction

In a world where there are more than 300 million obese individuals (World Health Organization, 2008), myriad efforts are being made to fight the obesity pandemic. It comes as no surprise that America, with its obesogenic society, is one of the leading countries when it comes to being overweight. The US has become characterized by unhealthy environments that encourage physical inactivity, a non-nutritious diet and gargantuan portion sizes. Although government and health organizations have been combating obesity for years, obesity rates continue to climb. During the 2009 year, adult obesity rates increased in 23 states and did not decrease in a single state. The percentage of children that are overweight or obese is at or above 30 percent in 30 states (Environmental Nutrition, 2009). Greater efforts are needed from those in charge; changes in policy and environment must be made to encourage healthy choices in nutrition and physical activity. Both nutrition education and physical activity options should be affordable and available to a community and its members. Initiating change from the top, down will likely prove most effective in stopping this pandemic.

The most vulnerable populations of this pandemic is the youth of the world. In 2007, an estimated 22 million children under the age of 5 years were overweight (WHO childhood obesity page, 2008). This is an extremely alarming statistic for a community health educator. Children of that age have absolutely no control over their health choices, and are likely to stay obese into adulthood and are therefore more likely to develop non-communicable, chronic diseases such as diabetes and cardiovascular diseases at a younger age. These diseases are largely preventable. High priority must be placed on
preventing childhood obesity and something must be done to keep our future generations healthy.

**Literature Review**

Less than one third of adults in the United States are at a healthy weight, which leaves over two thirds of the adult population at a heavy or obese weight (NIH, 2009). Research shows that as weight increases and surpasses overweight or obese, that there is also an increased chance of coronary heart disease, type 2 diabetes, various cancers (endometrial, breast, and colon), hypertension, dyslipidemia, stroke, liver disease, gallbladder disease, sleep apnea, respiratory problems, osteoarthritis, gout, gynecological problems (including abnormal menses or infertility), social and psychological issues and more (CDC, 2008). This is not a short list, and some of these symptoms can end in death, and if not, will likely cause some form of disability.

In 2008, for the fifth year in a row, Mississippi weighed in as the heaviest state with 32.5 percent of adults at an obese weight. Alabama, West Virginia and Tennessee also broke the 30 percent mark for obesity rates. Adult obesity rates now exceed 25 percent in 31 states and 20 percent in 49 states. Colorado continued to have the lowest rate at 18.9 percent. Consider that in 1991 no state had an obesity rate above 20 percent, and in 1980 the national average for adult obesity was 15 percent. Childhood and adolescent prevalence of obesity have more than tripled over the last three decades. In 1980, 6.5% of children aged 6-11 years old were obese (Environmental Nutrition, 2009). In 2008, that number rose enough to barely fall shy of 20%. The same rise can be seen in the obesity rate in adolescents, which went from 5.0% in 1980, to over 18% in 2008 (CDC, 2008).
The Cost of Obesity

Obesity is already responsible for 2-8% of health costs and 10-13% of deaths in different parts of the (European) Region (WHO, 2008). In the US, obesity-associated annual hospital costs for youth aged 6-17 years of age, have more than tripled since 1979, from $35 million (0.43% of total hospital costs) to $127 million (1.7% of total hospital costs) during 1981-1997 (Wang & Dietz, 2002). These numbers continue to climb. On average, people who are considered obese by body mass index annually spend $1,429 (42%) more on medical care, than those with a healthy body weight. Annually, Medicare spends an average of $608 more on obese patients as opposed to those with a normal weight (Weight-control Information Network, 2009).

Individuals who are obese have a significantly increased risk of death from all causes, compared with healthy weight individuals. The increased risk varies by cause of
death, and the greatest increased risk is with cardiovascular disease: over 112,000 excess deaths. There are over 15,000 excess deaths due to cancer, and 35,000 due to non-cardiovascular, non-cancer diseases per year in comparison with healthy-weight individuals (Weight-control Information Network, 2009).

Our government recently declared our obesity rates to be a threat to national security. An alarming amount of our population would be ineligible for the military due to an inability to pass standard medical and physical fitness tests (New York Times, 2009).

**International Action Being Taken**

Although the US is one of the fattest countries in the world, it is not the only increasingly pudgy country. So many countries are thickening up, and it has alarmed the World Health Organization (WHO). WHO has been working with the International Association for the Study of Obesity (IASO). IASO has produced the International Obesity Taskforce (IOTF), whose “mission is to inform the world about the urgency of the problem and to persuade governments that the time to act is now” (IOTF, 2004).

In 2004, after IOTF presented their report on obesity, showing that the EU youth were 24% overweight, their chairman, Professor Philip James, responded with great concern; “this provides a compelling case for the whole of the European Union to act together to tackle this. We need to develop a coordinated approach to ensure that we do not get cross-border influences due to some countries, which are dominated by intense marketing of inappropriate foods and drinks, having a weak approach to safeguarding the health of their children and providing the safe havens for television marketing to be
beamed into children in countries where there are already laws to protect them” (P. James, IOTF, 2004).

**What is the US doing?**

One of the largest US efforts to fight obesity is funded through the Center for Disease Control’s (CDC) Division of Nutrition, Physical Activity, and Obesity (DNPAO). 25 states receive funding from this department to help develop and maintain a program infrastructure capable of positioning the state health department in a leadership role for coordinated statewide nutrition, physical activity, and obesity strategies. The state convenes and creates a plan for nutrition, physical activity, and obesity. Next, they implement the plan and then support and monitor it. Finally, they evaluate the progress of their program and submit success stories and lessons learned to the CDC. Observing what is and is not working for a few communities around the nation adds to our knowledge and tools to fight obesity.

**Correlating Factors of Obesity**

The problem of obesity has definitely been recognized, but where do we point the finger? A typical American attitude looks for somewhere to place the blame. Who is at fault? Obesity occurs when a person consumes more calories from food than he or she burns. Our bodies need calories to sustain life and be physically active, but to maintain weight we need to balance the energy we eat with the energy we use. When a person eats more calories than he or she burns, the energy balance is tipped toward weight gain and obesity. This imbalance between calories-in and calories-out may differ from one person to another. Genetic, environmental, behavioral, and socioeconomical factors may all play a part (National Institute of Diabetes and Digestive and Kidney Diseases, 2008). It is
known how it happens, but who is the culprit? Does the blame get placed on the individual, the parents, the communities, the food corporations, or the government? In order to find which has the greatest influential factor, all the known causes of obesity must be recognized.

**Physical Activity**

For 2010, the CDC recommends that children aged 6 to 17 years old should get at least an hour of activity daily, with vigorous activity occurring at least three times a week. Physical activity should also include muscle and bone strengthening exercises. For adults, 150 minutes of moderate to vigorous physical activity is recommended. Even though these 150 minutes can be broken up into 10 minute segments throughout a week, in 2007, over half of American adults were not meeting these recommendations (CDC). With an increasing amount of budget cuts in American schools, arts and physical education are often the first to go. With a decreasing amount of scheduled physical activity and an increasing obesity rate, it is important to look at the correlation.

Experts recommend at least two and a half hours of moderate exercise per week (NIDDK, 2008). The *Healthy People 2010* focused on physical activity as one of the leading health indicators for this previous decade. Yet, only 31% of American adults report getting a sufficient amount of exercise throughout the week (WIN, 2009). Certain populations with rates of lower physical activity should be of special concern; these groups include women, those with low income and/or low education, African Americans and Hispanics, people with disabilities and senior citizens. Overall, women are generally less active than men throughout all age ranges. Also, adults in northeastern and southern states tend to be less active than adults in north-central and western states. Surveys have
shown that by the age of 75, one in three men, and one in two women engage in no regular physical activity (Healthy People 2010, 2005).

**Sedentary Activity and Television**

Television now has a seemingly infinite amount of channels and entertainment for Americans to chose from. Of the estimated 40,000 TV commercials that kids view each year, 32% are for candy, 31% are for cereal and 9% are for fast food (Ebenkamp, 2005). While observing these 40,000 commercials, children are not only being sedentary, but they are also being influenced by the media.

Over 13,000 high school students participated in the Centers for Disease Control and Prevention Youth Risk Behavior Survey study. The results showed that boys and girls who watched a low level of television had no increased risk of being overweight, regardless of their level of physical activity (Eisenmann, et. al, 2008). Another study in Europe, in which over 1,100 children averaging 10 years of age were studied, found that girls who watch four or more hours of television or digital entertainment per day were nearly three times as likely to be overweight or obese (Lazarou & Soteriades, 2010). The implications of these studies note sedentary behaviors may be useful as a predictor for being overweight and obese. Research often focuses on levels of physical activity and negates the amount of time that people are being sedentary. It might be important to focus more closely on this statistic to better understand its effect on obesity rates. Whether TV is influencing youth to make less healthy decisions or adding to their amount of sedentary time, it is not contributing to a healthier population.
Diet & Food Choices

The United States Department of Agriculture, in its *Dietary Guidelines for Americans 2005*, emphasizes the importance of fruits, vegetables, low-fat milk and milk products, with the inclusion of meats, poultry, fish, beans, eggs, and nuts. It is also important to keep a diet low in saturated fats, trans fats, cholesterol, salt and added sugars. In 2009, only 9.5% of American youth consumed the recommended amount of two servings of fruit and three servings of vegetables daily. American adults are hardly better than the children, with 14% of the adult population consuming the daily recommended amounts of fruits and vegetables.

Eating Patterns

Whether or not there are healthy foods available to a population, it is obvious that people are not eating a healthy diet at a balanced level. One study found, that in over 830 grade school children in urban areas that visit corner stores, the items most frequently purchased were energy-dense, low-nutritive foods and beverages, such as chips, candy, and sugar-sweetened beverages (Borradaile, et. al, 2009). Both where food is purchased and where it is consumed are influential factors on which types of calories are taken in.

Genetics

While obesity tends to run in families, it is difficult to separate genetic from other influences. The likely explanation for familial obesity is that they share a lifestyle and diet habits that can contribute to obesity. However, there is some research that links obesity to heredity (NIDDK, 2008).

The UK Health Behavior Research Center, found in a study of over 2,400 pairs of twins, that appetite might be hereditary. Genetically determined appetitive traits may be
one of the paths through which genes influence weight status later on in life. Early identification of infants with avid appetites may make it possible to implement strategies to attenuate the expression of these traits before excessive weight gain occurs (Llewellyn, 2010).

**Parenting Style**

The Child Obesity Research Center shows that the early school years may be the most appropriate time to intervene through targeting the identified characteristics that contribute to obesity (Jones, et al, 2010). The parents or legal guardians have control over which dietary choices are made for these children.

A study completed through the University of New England found that the higher the number of paid hours for the maternal figure, the higher prevalence of obesity found in their children. Likewise, the fewer number of paid hours spent out of the home, the fewer amount of hours children spent watching television (Brown, et al, 2010).

**Formula Feeding/Breast Feeding**

Breastfeeding during infancy might be a protective factor against obesity. A study of nearly 500 sibling pairs showed that in sibling pairs in which only one sibling was breastfed, while the other was not, the breastfed sibling had an adolescent BMI that was .39% lower than their sibling. Breastfed siblings were also much less likely to reach predicted obesity thresholds (Metzger, et al, 2010).

**Medical Issues**

There are certain medical issues that make it near impossible for the human body to not gain weight. When conditions alter certain hormones, it can lower metabolic rates and affect the body in multiple ways. These conditions include hypothyroidism*,
Cushing’s syndrome* and polycystic ovarian syndrome*. Doctors can identify these conditions and prescribe medication to counter these conditions.

**Medication**

As a nation that continually seeks a new prescription for a new problem, much of the population is on medication. Certain drugs, such as steroids, antidepressants and some medications to treat psychiatric conditions or seizure disorders, may cause weight gain. The cause is usually because of the way the medication alters metabolism, appetite and water retention. Many medication users may go unaware that their weight gain, or resistance to weight loss, is associated with their prescription.

**Environmental and Social Factors**

Environment plays a strong role in the development of obesity. In 1980 our obesity rates were considerably lower. Much of the US population today was alive in 1980; their genetic makeup has not changed, yet their environment has. Environment includes peoples’ entire surroundings, as well as their behaviors and choices in those surroundings. Socioeconomic status includes the entire world around someone; access to places to walk and healthy food, amount of physical activity, access to safe physical activity options, nutritional intake, types of foods available, advertisement in their area, employment, cultural customs, and affluence all play a part in one’s environment.

**Demographic Factors**

**Ethnicity**

*The Morbidity and Mortality Weekly Report* analyzed the CDC’s obesity report of 2008 and found that adult African-Americans in the US had a 51 percent higher prevalence of obesity and adult Hispanics had a 21 percent higher obesity prevalence.
when compared to white adults. Among blacks, obesity prevalence ranged from 23 percent to greater than 45 percent in every state, while Hispanic obesity prevalence ranged from 21 percent to almost 37 percent. In Alabama, Maine, Mississippi, Ohio, and Oregon, obesity among blacks reached 40 percent or more. Researchers attribute these differences to at least three probable reasons: cultural differences, such as attitudes regarding body size; differences in access, such as the availability of affordable, nutritious foods and safe places to be physically active; and behavior differences, such as the likelihood to participate in regular physical activity (Krisberg, 2009). Examples include foods that might be specific to a culture that are prepared high in fat or sugar; large family gatherings might make it difficult to pay attention to proper portion control, or individuals not originally from the US may have trouble adjusting to the calorie-rich foods offered here.

**Poverty Level**

Obesity, and type II Diabetes, both follow a socioeconomic gradient. The highest rates of these two conditions are seen among groups with the lowest levels of income and education (Drewnowski, 2009). Drewnowski claims that obesity is the toxic consequence of economic insecurity and a failing economic environment. Average family incomes of less than $25,000 annually during the prenatal and birth years for children are significantly associated with increased adult body mass index (Ziol-Guest, et-al, 2009).
Percentage of persons with perceived fair or poor health status by household income, United States, 1995.

Validating this research, a study from the University of North Carolina has found that the highest rates of obesity occur among the most disadvantaged population groups, racial and ethnic minorities, and those with the highest poverty rates and the least education (Lee, 2010).

**Media**

A study conducted at Yale University looked at nearly 400 products and found that nearly 60% were targeted at children aged twelve and under. It was also noticed that while the number of advertisements aimed at children is increasing, the nutritional value of these foods is on the decrease (Harris, et al, 2010). The Center for Science in the
Public Interest reviewed over 8,800 food commercials that regularly air for children to view, and found that not a single one marketed vegetables, fruits or an actual, healthy diet. A study, published in 2006, by The Archives of Pediatric and Adolescent Health found that every hour more of television watched by children translated into an additional 167 calories taken in each day (Brody, 2010). Researchers at the National Medical Center and George Washington University recommend that, “…current and future regulatory efforts should address the ubiquitous but often subtle marketing to which children are exposed and should measure success in terms of children's consumption of these products” (Jain, 2010.)

Mass media food messages are not seen as credible sources of health information; rather, they assist in constructing and reinforcing dominant misconceptions about food, nutrition and healthy eating. Even information that is targeting children and adults, that claims to be delivering a healthy message, may not be delivering the truth. A review of six nationally circulated, well-known and well-read newspapers was completed. While nearly 50% of the article information was nutritionally focused, at least one out of every ten articles had faulty, non-objective information in them (Heaner, 2010).

**Strongest Correlates**

After looking at all of the research, all the related factors and all of the proposed culprits, it would be impossible to select one specific factor as the sole source. Obesity is the result of an entire lifestyle; multiple variables, both controllable and uncontrollable, come into play in one's life in order to become overweight or obese. Taking a closer look at two cities in America, (Salem, Oregon and Jackson, Mississippi), can provide two
examples, at opposite ends of a spectrum, of how different communities and environmental factors produce different health outcomes.

On the list of heaviest states for adults, Oregon comes in 28th place with 25.3 percent. For prevalence of overweight children, Oregon was the thinnest, with less than 10% of children overweight. Over one fifth of children in Mississippi are overweight (CDC, 2008). With comparable estimated populations in 2006, Salem at 152,239 people, and Jackson at 176,614 people, they have considerably different communities. While almost a quarter of Jackson’s people are below the national poverty line, less than 15 percent of Oregonians join them. Both cities have similar average household sizes of approximately 2.55, yet citizens of Salem bring in an average of $40,000 annually per household while households in Jackson have an average of $30,000 annually. Over half of Jackson is African American, while less than one percent of Salem is (US Census, 2008).

While over one third of Oregonians receive the daily recommended amount of fruit, less than twenty percent of the adults in Mississippi consume the target amount. Furthermore, greater than 15% of adults in Oregon consume the recommended two servings of fruit and three servings of vegetables daily. In Mississippi, less than 10 percent of adults consume the recommended amount (CDC, 2009). One reason for these differing amounts could be the amount of convenience and fast food restaurants; about 25 McDonalds can be found in the Jackson area, while only about twelve serve the Salem population (McDonalds, 2010).
What steps to take: a Community/Ecological Approach

The Built Environment

In order to assess populations and accurately implement interventions and programs against the obesity epidemic, it is first necessary to be able to identify the populations most at need or risk. Comprehensive disease surveillance systems are important for developing preventative health policies and tracking their impact in populations at high risk. An analysis of the data from the Centers for Disease Control and National Center for Health Statistics’ National Survey of Children’s Health done through the Pennsylvania State University, stresses the importance of looking closely at subsets of populations when choosing interventions for populations (CDC, 2008). Their results demonstrate how “risk and protective factors related to obesity emerge differently among sociodemographic subgroups and the relative importance of these risk and protective factors in relation to adolescent overweight status. Interventions that work for one population subgroup may not work for another” (BeLue, 2009). This will place demands on health care and community services, especially because the highest rates are among children who are frequently underserved by the health care system.

The first place to look at in making a change towards a healthier lifestyle is the community. At the neighborhood level, all factors combined together, known as the ‘built environment’ encompass the entire range of structural elements in a residential setting, and have the greatest influence on a population’s health. Because populations are different and diverse, their unique health levels are produced by a unique set of neighborhood factors. These factors are often embedded in larger social contexts of the community and society, and include everything from housing, transportation and public
resources, to accessibility of health care, presence of sidewalks and availability of nutritious, affordable foods. Because some research has been looking more closely at an ecological system approach, the body of evidence is growing to shed light upon multilevel health interventions which are greatly needed to tackle the epidemic of childhood obesity in the US and other nations (Galvez, et al, 2010). Although the amount of research in this area has increased, much more remains to be done to enhance our understanding of neighborhood level factors and their associations with and causations of health outcome.

In looking at research on this topic, it is important to ask the following four questions:

1. What are the major modifiable environmental and behavioral determinants of overweight?
2. What is their relative importance?
3. What is the correlation or interaction of modifiable determinants of overweight?
4. Does a given determinant have the same effect in various age, sex, ethnicity, and socioeconomic status (SES) groups?

These questions need to be asked when researching behavioral and environmental determinants of the overweight among populations in order to determine which factors can be changed or modified and in turn, a change in this health condition can be expected.
For example, because the minorities and the poor share a greater obesity burden, areas of special interest are these socioeconomic disparities. These disparities can be understood through studying the built environment, which some research defines as “comprising urban design, land use, transportation systems, and patterns of human activity” (Handy, et. al, 2002). There is a need to understand the relationships between these factors. By having a thorough understanding of the complex relationship that intertwines one’s environment, there will be greater understanding of how to approach fighting obesity at an etiological level.
The above logic model follows the ecological systems theory model for childhood obesity, the first place to look is at the child’s behaviors, and then into parenting styles and family characteristics. And finally, looking at the community, societal and demographic factors and influences will provide a comprehensive understanding of taking an ecological, community approach to combating obesity. From an ecological perspective, the environment is not a physical entity, but a source of possibilities for and limits against engaging in certain behaviors or activities. An individual’s environment can also vary depending upon their point of view. For example, some children may see an empty field as an opportunity to play a soccer game. Other children may only recognize an area to play soccer as a grass field that has the lines painted specifically for soccer. One’s perception of their environment greatly affects how they interact in it. This ecological model of childhood obesity models how children are affected by their parents’ and more general family characteristics and also by the larger community, cultural, political, economic, and political context in which their families are embedded (Davison & Birch, 2001).

**Parental influence and factors**

Research has shown that children’s ability to regulate their own behavior is associated with feelings of competence, which are built through having the knowledge and skills to accomplish their own goals, feelings of connectedness, or being supported in their choices, and feelings of autonomy through choices provided within an adult-manipulated environment that allows children to act on their own. In these ways, parents can promote self-regulation in their children by providing structure, allowing and
encouraging freedom, and establishing a socializing relationship between parent and child. By supporting autonomy, parents can teach children that they are responsible for their own behavior and its consequences. Some parents can engineer an environment so that their children only have good options, but not all parents may have the resources that are needed to create the safe and healthful choices for their children. By establishing a social support system with their child, parents give children the confidence that they are on their side, which makes a difference in how children respond to other parental practices. If children are in a warm, supportive and affirming social system, they are more likely to be accepting of parental values, motivated to comply with parents’ rules and restrictions and eager to model their parents’ behavior (Johnson-Taylor & Eberhart, 2006).

Parents’ knowledge, whether it is based on factual information or not, plays an extremely important role in the life of children. This is why accessible and practical information must include how the message can be acted on within the constraints and resources of the family environment. Also, parental learning styles must be taken into consideration. Whether it is a pediatrician’s pamphlet, a book about child development or media on the web, information must be delivered in an appropriate way to the intended audience.
Look at social influence in the ecological context

Children are embedded within a broader social environment as illustrated in the above figure. Along with a child’s family and built environment, the child lives within a larger social environment of economic, political, and cultural influences. The socioeconomic-cultural environment can include the food industry, media, faith, restaurants, peers, social norms, health care and policies which all influence the obesity epidemic. Because of this broad influential range, we need effective population-based approaches to modify the environment in order to influence children and adolescents in a healthier way. Physical activity is influenced by social support and other social influences. Eating behaviors are similarly influenced.

**Sedentary behaviors vs. physical activity interventions**

Looking into separate interventions for dietary choices, for sedentary activity and for physical activity is necessary because these are independent behaviors and need to be
investigated differently and have unique interventions to improve them. Some social community structures, such as school influences, play a great role in both children’s dietary intake and their physical activity levels.

The Community Guide to Preventative Services has cited strong evidence that offering PE and increasing physical activity in PE is related to reduction in overall BMI among grade school children (Sallis, et. al, 2003).

Some of the greatest barriers preventing people from engaging in physical activity are lack of time, lack of access to convenient facilities, and a lack of safe environments to be active in.

**Dietary intake, behaviors and patterns**

Living in an environment which is antagonistic towards healthy choices, it is not surprising that obesity rates remain a persisting problem. Dietary behaviors are influenced by a variety of factors. Knowledge about the dietary choices that one makes is extremely influential. Depending on what source a population receives its information from; it may or may not be aware of which choices are the healthy ones. In order to ensure that all populations have accurate and reliable information regarding their nutrition and diet, governments must implement programs. In the US, this has already been done; there are excellent websites for Americans to use in order to make a healthy diet a part of their everyday life. The issue is most likely that citizens do not actively seek out this information, and instead rely upon the information that is most readily available to them. This information often comes from the food corporations’ labels and advertising. Many fast food chains have promoted healthier options on their menus, but still do not reveal the potential detriments of the rest of the menu.
In Obama’s new health plan, there is a call for all fast food chains to have to display caloric and nutritional information to all customers. This is a step in the right direction. It is imperative to empower populations with knowledge to control their own health. Hopefully this change will continue on throughout the rest of the food world.

**Eating away from home**

The amount of food consumed by children in restaurants and fast food joints has increased nearly 300% between 1977 and 1996 (St Onge, et. al, 2003). Observation shows that, at fast food restaurants, food consumption of energy-dense foods, fats and sweetened beverages increases. Increasing the frequency of eating fast food has been associated with an increased BMI (Ebbeling, et. al, 2004). We can see this example clearly in the comparison between Jackson and Salem, with Jackson having over twice the number of McDonalds. It is unlikely that a social environment intervention would be effective in decreasing the amount that families are eating away from home. Therefore it is important to look into changing the types of foods offered in those types of restaurants to lower the energy intake.
Families are embedded in this larger, multilayered environment that affords opportunities and resources but also sets constraints on choices. Families seem to be the bridge between the individual and society. Part of an ecological systems approach must look further in depth into the family systems.

**Breastfeeding/Maternal dietary choices**

A look at eight respected studies done over the last decade, focusing on the protective association between breastfeeding and fatness, all show a two thirds chance of not becoming overweight later in childhood. If something as natural and as simple as breastfeeding can contribute to lowering the prevalence of obesity, then mothers need to be informed of this so that they can take action and begin to breastfeed more (Galvez, et. al, 2010). There is international support to increase breastfeeding rates, with the aim
being for mothers to exclusively breastfeed for six months. Governmental support of this goal must be made in order to support mothers in their ability to breastfeed children. Governmental roles should focus on education implementation and policy change. Education programs should raise awareness of the correlation between overweight and breastfeeding. Some hospitals give new mothers formula samples as gifts; these ‘gifts’ come from the food industry. In order to encourage mothers to become educated on the subject, education programs are greatly needed. Policies should be aimed at protecting mothers when breastfeeding in public places and also in giving mothers adequate leave time from their professional life in order to give their child the best chance at a normal, healthy weight for their lifetime.

**Ecological Perspective of Family Systems**

Families are embedded in a larger ecology, which includes a physical environment, an economic environment, and a cultural environment. Physical environment can include factors such as the distance to the grocery store and how easy it is to get there. Economic environmental factors might determine what people can afford to buy and what they can store in their place of residence. Cultural environmental factors include local ideas, especially about what is appropriate to feed children, who is responsible for deciding on a child’s diet, and also the norms about how people use their leisure time. It is proven that all of these factors are influential on a child’s health; The odds of a child’s being obese or overweight were 20-60 percent higher among children in neighborhoods with the most unfavorable social conditions than among children not facing conditions such as unsafe surroundings, poor housing, and no access to sidewalks, parks and recreation centers (Singh, 2010).
**Familial/Parental Influence**

Effective interventions will have to include the familial environment: parents, legal guardians, siblings and the extended family. Looking at four different aspects of the familial system can help a health educator look at different ways to approach most effectively implementing an intervention. Those four aspects are:

1. Families are embedded in a larger ecology
2. Families are open systems subject to outer and inner influences
3. Families are homeostatic, but modifiable
4. Family influences are reciprocal and interconnected

**Open Systems**

Families are vulnerable to change from outside environmental pressures, but they are also subject to change because of changes in their individual family members. Some families have more resources than other families to change their environments and to pick which environments they will live in. If a family makes a goal of working out on a more regular basis, but cannot afford access to a safe environment to do so, they are not likely to reach that goal (Lareau, 2002). A sociologist, from a symbolic interactionist perspective, might say that a family is in an environment with free will, but only has free will within the previously set constructs of their society that are ever-changing. For example, a family living in poverty will only have access to certain medical care, which may be of a lesser quality than a family living in a more affluent area might have.
Modifiable Homeostasis

Families tend to pull towards being homeostatic and resisting change, but they are modifiable. Both developmental and environmental pressures are capable of changing families. Focus can be placed on momentum from naturally occurring changes to foster a desired change or outcome. If children enjoy the sport of football, parents can encourage practicing more often and make it easy for children to do so. Instead of encouraging an unnatural shift, focus on opportunities for growth in an area with potential (Bradley & Corwyn, 2002). Although it would be difficult to target individual families, it would be ideal. Assessing their current state and finding the most practical next step towards better health would greatly benefit a family. This would likely be more effective than families who only have one great goal of being healthy; people need steps to take that are realistic to them and near their comfort zones.

Interconnectedness

Some parents are aware of which choices lead to a healthier lifestyle, but they cannot always treat children the way they would like to because children influence their parents’ strategies for dealing with them. Instead of parents imposing certain behavioral habits on their children, they instead react to their children’s characteristics. Another aspect of the interconnectedness of the family is realizing that changes in one part of the family system have implications for other parts of the family system. Not acknowledging the indirect effects of familial interconnectedness in developing interventions can result in consequences for families that were not intended.
Because of all of the above complexities, it would be impossible to have just one single intervention of change targeted toward the family. These complexities provide the opportunity for multiple points of entry for interventions. Both relationships and individuals should be targeted; the more targets, the better. Interventions should be built on momentum from natural change, as mentioned above. These natural changes can occur during a transition into parenthood, a youth’s transition into adolescence, or a young child’s entrance into a new school. Optimistically and ideally, affecting one family member will reverberate throughout the entire family system, making family systems a good focus for intervention. In targeting families, it is important for to be helping individuals gain the knowledge, motivation, and opportunities they need to make informed decisions about their health.

TV, Media and Fast Food

Another influential factor in children’s lives is the digital world and its media. Progress must be made towards lowering the amount of time we are engaging in digital entertainment such as television, video games and computer activity. There are powerful forces driving the obesity epidemic in the fast food industry, food producers and the media of TV, film and games that have drawn and keep kids sedentary. The large majority of the advertising budgets for fast food restaurants and of food manufacturers is spent on TV, with the most advertised items being desserts, snacks, prepared convenience foods and soft drinks. Along with increased advertisement for unhealthy diet choices, there is a continued growth of broadband and video game industries such as broadcast
TV, cable TV, VCR, DVD, video games, computer games and the internet, which will also continue to negatively affect children’s health behaviors. Research needs to discover interventions that can be made more relevant to the institutional environmental forces and corporate forces that are behind this epidemic. It will be extremely difficult to influence profit-focused industries to change, but with more interdisciplinary study of economic factors, gains may be made in this direction. Much of the research done in this area is often funded by the fast food industries themselves, and it is questionable if that research can be accepted without being biased.

Conclusion

A study of over 13,000 pre-school aged children throughout four European countries showed correlations between many factors and the rate of obesity; these correlating factors included a maternal above average weight during pregnancy, smoking during pregnancy, parental figures being overweight, less time breastfeeding, lower socioeconomic circumstances, and more maternal work hours per week (Hawkins, et al, 2008). By focusing on factors such as these, and also the ones discussed above, it is extremely likely that a change in the pattern of obesity can be observed.

In order to curb this pandemic, both communities and governments must pull together. It is very simple; we have constructed an environment that encourages the behaviors that increase the risk of obesity. We can reshape our society. National policies can encourage and provide opportunities for greater physical activity, and improve the accessibility and availability of healthy foods. They can also encourage the involvement of all government sectors, civil society, the private sectors, and all other stakeholders in our nation. When everyone is engaged, it will be possible to change a nation, which is
exactly what is necessary in order for obesity and its related diseases and conditions to no longer be a continuing threat to our nation’s health.

We did not become an obesogenic society overnight; this epidemic has been socially constructed. It has been decades of changes that have contributed to a civilization that promotes a lifestyle that leads to obesity. It is now time to address food and agricultural policies, fiscal and regulatory policies, survey and monitoring systems, consumer education and communication (including marketing, health claims and labeling), school policies, transport, and urban policies. It is necessary to ensure that all of these avenues are geared towards improving access, choice, education, and physical activity for the communities.

Obesity prevention should focus on supporting parents, particularly in promoting maternal health behaviors during pregnancy and postpartum. While many interventions focus on adolescent and adult weight levels, it might be more important to focus on pregnancy and through the preschool years. And to be successful, the focus must go beyond influencing dietary choices, physical activity, and sedentary behaviors.

Most risk factors for early childhood overweight are modifiable or, would at the very least, allow at-risk groups to be identified. Policies and interventions should focus on parents and providing them with an environment to support healthy behaviors for themselves and their children. While the short-term consequences of obesity are not a significant burden to society, the long-term consequences are grave. Even a small decrease in the prevalence of obesity at the population level is worth achieving. Modifying health behaviors requires actions at many different levels. Policies at the community and regional levels can help create an environment that supports healthy
behaviors for parents and their children. Educational interventions targeted towards parents, is the best way to give them the knowledge and tools they need to access resources and to make the healthiest choice for their family.
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