

Stay Smart: Lost Weight: Childhood Obesity and Health Education

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Abstract

Prevention is the key strategy for controlling the current epidemic levels of childhood obesity. Current statistics show that obesity has more than doubled for preschool children aged 2-5 years and adolescents aged 12-19 years, and it has more than tripled for children aged 6-11 years. It is generally recognized that nutrition education for the general population needs to be improved. What else is apparent is that citizens are the responsible ones for curing and preventing obesity. Lifestyle behaviors, weight loss programs, and strategies to curb malnutrition have offered little impact on the growing increase of the obesity epidemic. Studies provide strong evidence that nutrition programs in public schools have increased intelligence level and cognitive ability. Countless articles have been written identifying malnutrition exhibition of behavior disorders and aggressive behavior leading to at risk adolescents. Environmental conditions – social, economic, and political – have lead to a lack of effective and coordinated preventive public policies. While the government has set standards for graduation requirements in elementary/secondary education, the identical approach to develop obligatory health interventions could be a powerful weapon against obesity. Herein lays the essence of a clear definition and recommendation of a policy that serves the purpose of curtailing the epidemic of obesity and constructing future learning capabilities of youth. The major findings of the report encompass a creative concept in which the government specifically monitors the health of each child in a public school system to assure participants are meeting the criteria for a healthy lifestyle.

Introduction

In a nation faced with the ongoing challenge of ensuring all of its citizens have a healthy and active lifestyle it is no surprise that people are seeking alternative methods of overcoming the problem of childhood obesity which currently seems almost impossible to solve. The time has come to face this issue with the determination that no human being, especially children, suffer the indignity of ill health while the underlying cause of obesity runs rampant.

Obesity is defined as the presence of excess adipose tissue. To be more definitive, any child who exceeds their height and weight above the 75th percentile for age and sex while suffering from morbidity worsened by obesity should be considered obese. Countless articles have been written establishing developed countries, particularly the United States, have reached epidemic proportions in both adults and children. Between 1976 and 1991 the prevalence of overweight and obesity in the United States alone increased by 31% (Heini and Weinsier 1997), then between 1994 and 2000 it increased by another 24% (Flegal et al 2002). Data from the National Health and Nutrition Examination Survey (NHANES) substantiates the continuing increase in overweight among children during the past two decades. (Flegal et al 2004). The percentage of overweight children has nearly doubled, from 7 percent to 13 percent, while the percentage of overweight adolescents has almost tripled, from 5 percent to 14 percent. These numbers may be higher in some ethnic minority groups. In the cultural arena of Hispanic and Afro-American subcultures, the reasons of economic and geographic location are more prominent. Nationwide, obesity among black and Hispanic children increased by more than 120 percent compared to about 50 percent among white children from 1996 to 1998. In low-income, rural regions of Mexico, for instance, the combined prevalence of overweight and obesity was nearly 60% in women and more than 50% in men (Fernald 2004).

Studies completed by Rosenbaum and Leibel show that obesity is a complex disease in genetic, metabolic and behavioral determinants. (Rosenbaum, Leibel 1998). However, which way one chooses to look for clues in the development of obesity, the

bottom line is that it can be fixed. Scientifically, it is well established that healthy diets and adequate levels of physical activity can reduce the risk of becoming overweight or obese and help reduce morbidity and mortality associated with obesity-related diseases. The problem is that all involved constituents cohesively have not done their job. This imbalance between intake and expenditure does not require a high level of intelligence to figure it out.

A major concern about childhood obesity is that obese children tend to become obese adults, facing increased risk for Type II diabetes, cardiovascular disease, and many other chronic diseases. It only makes sense for the demands of immediate action in the form of coordinate efforts on the part of policy makers, health professionals, community leaders and parents take place. These organizations and individuals have had this information made available to them and, yet, the crisis continues to escalate.

Although parents may be aware of their child's weight status, many are not willing to publicly recognize or label their child as overweight. Parents do not define obesity by where a child fits on the growth chart. The vast majority of them consider overweight a cosmetic issue, not a health issue. The language used around conversations with parents or guardians can be simplified through nutrition education. Families serve as an important role model and as powerful reinforcers of the knowledge and behavior children learn in school. Raising awareness of health risks and motivating appropriate action is a delicate proposal and one needs to tread lightly to assure provocative discrimination does not take place.

Efforts to both manage and prevent childhood obesity must involve education, research and intervention. The major social, financial and health implications of these issues indicate the need for more priority attention by both governmental and private scientific funding agencies. This also includes steps to alter environmental factors (i.e., fast food industry) from polarizing children to drive-up restaurants and vending machines. In some areas, children will recognize their school as the best source of nutritious food and beverage items rather than local fast food stores and restaurants only offered to them.

As we look to the future, all developed countries cannot afford to ignore the issues of childhood obesity, declining academic standards, and lack of stepping up to the plate to accept full responsibility. If a nation as a whole cares to succeed in the world, then it needs to establish a backbone of competent, intelligent and socially capable people. A new set of criteria of government strategies are needed, including a balance of medical costs versus weight management. The economic costs of obesity were estimated to be \$69 billion in 1990 (Hill 1998), while the wholesale price of lunch items per student is \$.70 in mid-size student populated educational institutions. The Surgeon's General Report suggested obesity and its complications were already costing \$117 billion annually. The rapid increases in obesity across the population suggest that these costs are only going to increase. The cost of obese American citizens on a daily regiment of one of the two available drugs for a treatment of obesity was approximately the same as the direct costs of obesity. However, an NIH clinical trial demonstrated that diet, exercise and modest weight loss decreased the incidence of Type II diabetes by almost 60 percent.

The mentality that drugs should be a replacement for what the body is capable of doing on its own has to cease. Through nutritional education, the public can become aware of preventive measures instead of relying on the proverbial white pill. Granted, the problems of obesity are more complex and resistant but that is because the silo effect of health and education has long reigned to be the course of action.

Mind/Body Connection

In order to understand the complexities of obesity in relation to the “learn to eat, eat to learn” concept, it is imperative to view the process of attitude and learning. Disapproval, persecution and branding of obese children at school are an important social problem.

Perceptions that people place on themselves involve mental photographs of comprehensive images inclusive of others, the environment and interaction through experience, training and instruction. These intellectual charts help to develop an understanding of what an individual experiences ultimately has a negative or positive consequence linked to their actions. As adults, the assumption is produced that they have gained the knowledge to make choices shaped by organization of intelligence and environmental stimuli. Children, on the other hand, rely on a dominant individual(s) to influence their thought process to make good judgments. Albeit, their capacity to control their surroundings is reflected on partially understood needs and emotions. The interjection of bias only leads to more confusion and lack of consequential forecasting.

Within the framework of a child's mind, the philosophy of self management and personal direction over health is minimized by cognitive progress in age related mental processes. Therefore, children trust their parents, guardians and teachers to lead them in a direction that enhances self-esteem, maintains beliefs in personal efficacy, and promotes an optimistic view of the future (Brownell 1991). This ideal paradigm suggests a life of warm pleasantries and positive illusions.

Attitude of Body Image

People with the wrong bodies, those overweight and unfit, are thought to be indulgent, lazy and lacking control (Brownell 1991). The smugness of thin people sneer at individuals who apparently lack self control, and "why many are often scolded by parents, relatives and friends for lacking the discipline to resolve their weight problems" (Whitney, EN and Rolfes, SK 1999). The reality of the psychological challenge in relationship to the underlying human eating behavior/obesity involves a complicated set of physiological feedback mechanisms (Ben Ami 2005). But the tendency is to fall back on the explanation of the absence of the number of influences on our behavior because we inhabit an extraordinarily complicated machine called the human body (Wegner, DM 2002). The educational institution is the most common venue to be subjected to negative stereotyping. Disapproval, persecution and branding of obese children at school are an important social problem. Countless times teachers have agreed that obese students, particularly children, are untidy (20%), more emotional (19%), less likely to succeed at work (17.5%) and more likely to have family problems (27%). Twenty eight percent of the educated agreed that becoming obese is one of the worst things that could happen to a person. (Neumark-Sztainer et al 1999). Peer rejection may be the overweight child's first

challenge in the educational setting. A study conducted in a kindergarten class signifies how image is portrayed at such a young age. The participants were each given five photographs of other children their age. The representation expanded over three ethnic children of different cultures, one who was obviously disabled and the last child was obese. When asked which of the children in the photograph would not be their friend, the class unanimously stated “the one who is fat”. (Richardson, SA 1961). Even the stigma of adiposity places a high value in the minds of preliminary cognitive association. Prevailing in the educational system is the negative attitude by educators toward obesity. “Many fat kids exist on a diet of shame and self-hatred fed to them by their teachers”. (Solovay 2000).

People are repulsed by rolls of fat, cellulite pitting and rotund masses hanging over belts. Young children stare at the enormity of flesh shuffling down a sidewalk. This learned recognition is a result of their environment at home and at school. It smacks of discrimination at the forefront. Anecdotes abound about overweight individuals being ridiculed by teachers, physicians, and complete strangers in public setting such as supermarkets, restaurants, and shopping areas. Fat jokes and derogatory portrayals of obese people in popular media are common.

Learning Aptitude

The premise that nutrition affects children's ability to learn is not new. Articles denoting the connection of poor diet and ability to grasp learning concepts document that poor nutrition (i.e., high fat and sugar content food) interfere with cognitive function and are associated with lower achievement. A 2004 study of 11,192 kindergartners found that overweight children had significantly lower math and reading test scores at the beginning of the year than did their non-overweight peers, and that these lower scores continued into first grade (Abad 2005). Commanding research substantiates that proper nutritional support is crucial to maximize brain functioning and to enhance learning. "Healthful habits – nutritional, social, environmental, and lifestyle – learned early in life ensure normal physiological and neurological growth and development". (Wolfe et al 2000).

Selection and consumption of nutritional foods transfer the message of achieving optimal learning cognizant of recalling information, problem solving and thinking critically. Ever since the introduction of the Food Guide Pyramid, scientists continue to advocate a wide range of foods as nutrient resources. The introduction of fat into the diet is not to be taken lightly. Its credit to its function as a carrier of fat soluble vitamins and helps to sustain glucose breakdown longer is notable. However, "over or under consumption can trigger a neurotransmitter imbalance". (Garrison & Somer 1995).

Subsequently low levels of choline (found in meat, wheat germ and soybeans) have been associated with memory loss. Studies conducted by Garrison and Somer also found that deficiencies in vitamin B1 reduces attention span, vitamin B12 results in memory loss, confusion, and impaired physical function. The whole nervous system needs good

quality food to power mental activity. Furthermore, an increased prevalence of behavioral and learning difficulties has been observed among children who are gaining weight rapidly (Epstein et al 1996). Whether learning difficulties reflect the subtle effects of sleep apnea or psychosocial problems within families requires additional studies. The consumption of fast foods, high sugar drinks and processed food items underscore the availability of iron. For children in the United States, iron deficiency is a prevalent nutritional problem. Iron deficiency and anemia lead to shortened attention span, irritability, fatigue and difficulty with concentration. Consequently, anemic children tend to do poorly in vocabulary, reading, and other tests (Parker 1989).

Physical activity is essential to health and marked decrease in obesity. The same can be said for its role in creating a knowledgeable condition for the brain, increasing levels of alertness, mental function, and learning. A Canadian study of 500 school children showed that increased gym time related positively to better scores on exams. (Hannaford 1995). Animal studies indicate that regular exercise in the form of running may trigger the growth of new brain cells responsible for learning and memory (Hotz 1999).

Physical education should no longer be seen as a luxury but rather a component of a child's performance in school. Increasing budgets in PE programs sends the message loud and clear that performance standards include nutrition and physical education. Unfortunately, this isn't happening. During the 1990s, the percentage of high school students enrolled in daily gym classes fell by 31 percent. Today, only 8 percent of elementary schools, 6.4 percent of middle schools, and 5.8 percent of high schools

provide daily physical education. Overall, 25 percent of our school children do not attend any PE class offered. Walk through any gym at any given high school and the evidence is visualized by students refusing to “dress down” and participate in any activity at all.

Standardized Tests

What is the purpose of a standardized test and is this purpose worthy or meaningful? Initially, standardized tests were developed to assess the progress of a child’s education and a means to hold schools accountable for improving student learning. Not only were school officials kept abreast of the levels of achievement of each child, parents and community members were informed about how well the schools are doing and whether their children are learning what they need to know. The goal is not to flunk students, not to wave fingers at lousy teachers, not to make bold pronouncements that will be remembered at election time, not to give students of the same even though it did not work the first time – but to improve information to help the student learn better. (Peterson et al 1999).

The goal of any assessment also allows the fundamental right of community members to look over data to determine if schools are providing equal opportunity to all students. Policy makers are given the allowance to peruse the material at hand to know the effectiveness of various programs. Districts and legislatures often use tests to hold schools accountable for how well they are spending taxpayer’s money (Peterson et al 1999). Districts are also given the opportunity to analyze the assessment in order to reform curriculum.

Anyone in the educational system supports the idea of opposition to low standards. Faculty, staff, and parents acknowledge that every child be given the opportunity to succeed. On the political level, however, the obvious intent is slanted. Calls for more standardized tests come from politicians eager to prove they are serious about school reform and creating high skills, internationally competitive workforce. As simplistic as this formula for reform may be “high stakes” testing force children to be arranged into retention, denied access to a preferred high school, or, in some cases, even refused a high school diploma. “High stakes” tests, on the rise, fully substantiate the purpose of education as a whole. These tests, based on a theory, stipulate that a child must pass an exam in order for promotion to the next grade level, graduation from high school, or admission into college takes place. The assessment known as “proficiency exit standards” pigeonhole some students into an incompetent category based on just one examination making them feel like failures for life. However, if portfolios, class projects and research papers are included, the probability for a child to be promoted to the next grade or graduate from high school becomes more advantageous. But relying only on standardized tests dodges the complicated questions of what tests actually measure and of how schools and students react when tests are the sole yardstick of performance (Elmore 2002). An example of a “high stakes” test is the Washington Assessment of Student Learning (WASL) which is currently administered to fourth, seventh, and tenth graders to evaluate whether individuals students are “on track” according to their education standards, and to critique the overall performance of schools.

The Elementary and Secondary Education Act by the Federal government mandates a single-based accountability system for all states requiring annual testing at every grade level, and states must disaggregate their tests by students' racial and socioeconomic backgrounds. The Federal government further mandates a single definition of adequate yearly progress, the amount by which schools must increase their test scores in order to avoid some sort of sanction. The idea of performance-based accountability took the form of what is called a "horse trade"; states would grant schools and districts more flexibility in making decisions about what and how to teach, in return for more accountability for academic performance (Elmore 2002).

Ideally, the working theory behind "high stakes" testing is that it encourages students to work harder and perform better. It creates an atmosphere of incentive based ideology of ever-higher levels of achievement. The same can be said for school and district administrators, wherein, the incentive for them is the corner of the market in funding provided they do a better job of monitoring the student performance. If low performance is a chronic issue, presumably something more must be done. The threat of these measures: students must be denied diplomas or held back a grade; teachers or principals must be sanctioned or dismissed, and failing schools must be fixed or simply closed, is supposed to motivate students and schools.

The work of turning a school around is not an easy task. Getting all parties involved in the thought process on the same page is enormous at best. Improving student

or school performance is impossible without improving knowledge and applicable skills. The investment is a challenge in teacher's knowledge, pedagogical skills, and understanding of students. Capacity problems of states and localities will become more visible as a political issue; triggering responses that will help schools overcome the real obstacles they face in improving the quality and intensity of teaching and learning.

One can question the validity and reliability of these standardized tests to ascertain a respectable consensus. But the bottom line is this; young children do not understand the significance of testing. Older children laugh it off as a joke. The consequence is that neither expends maximum effort in a testing situation. The test results do not tell us what a child knows and can do, when the child does not value or understand the importance of the testing situation. In the lower grades, particularly preschool and grades K-2, results were reported in increased pressure in children, setting too many of them up for devastating failure and consequently, lowered self esteem. The probability of lower test scores leads to harmful tracking and labeling of children.

How many of us really believe that a child's intelligence, achievement, and competence can be represented adequately by standardized tests? Depends on whom you ask is the answer. If students are successful at passing these tests, then parents can gloat while passing out slices of cheese and glasses of wine. If students are not successful, then those parents turn to the school and point fingers while denying their lack of involvement in their child's education. Upon reflection, few teachers and parents would

accept that a single test score could define any child. The same holds true for the standardization of obesity. The use of the best measures to date to deliver statistics of intelligence levels ought to be transformed into health accountability measures. These health standards would measure the progress of a child's weight loss to meet the criteria of the measurements used to determine the overall body mass index. Not only will this hold the child and parent/guardian accountable for the progression, but also holds the educational system for improving student health. The goal, here again, is not to humiliate the child, brandish the parent for neglect or ignorance, instigate a revolution of eating disorders such as anorexia nervosa or bulimia nervosa to combat the standard – but to improve the overall health and well being of the child. The idea of the “high stakes” tests was instituted under the theory of No Child Left Behind based on setting standards to be sure that every child would have the opportunity to improve their education to meet the grade level criteria. Requesting a health standard would be equal in the requirements as standardized testing. Obviously, if the child did not meet the health standards, the consequence would be to be retained at the same grade level until such time those health standards are met. As absurd as it may sound, it represents a method of quality control for life expectancy of every morbidly obese child.

Politics

Physicians urge the government on two broad grounds. First, reducing obesity clearly has life-saving and life-prolonging effects. Second, reduced obesity can

significantly enhance the quality of life, especially among children and adolescents. Health specialists have powerfully documented these claims (Kersh 2005).

The biggest problem facing the epidemic of obesity is the very principles that define us as a society. They are expressions of our very core values – personal freedom, choice, and liberty. As far back as the early twentieth century, overweight individuals were blamed for lacking willpower, making foolish food choices, and living unhealthy lifestyles. But isn't that what America is all about? Free choice? Or is it? In a culture that prides itself on individualism; private behavior is declared off-limits to state intervention. Many people thought so in the tobacco industry and look what happened. From the nation's Puritan start, Americans have read health and wealth as marks of personal virtue (Morone 2003). Solidifying this stance is the accusation that these same individuals view obesity (like smoking, heavy drinking, or poverty) as personal failures. Obese people have no one to blame but themselves. Obesity politics are further complicated by the dizzying array of foods and the complicated claims and counter-claims about nutrition. Naturally, food companies and their lobbyists play a major political role. (Nestle 2002).

Efforts to regulate private behavior have traditionally landed in the courts, perhaps because such issues require governments to negotiate the tension between public needs and private rights. Some politicians seek to block intrusive action in the legislatures and administrative agencies. This brings up the question whether courts are equipped to deal with the technical, specialized nature of health policy concerns. One

can argue whether judges and litigation experts are trained as generalists, leaving them poorly situated to resolve complex questions concerning health effects, medical technologies, and the like. (Kersh 2005).

The politics of obesity focuses on private behavior only as a result of a crisis from public health advocates and can get smothered under the tonnage of legislature stalemate. All too often, both sides of the argument end up in court. Unequal power, even in private conflicts, is a matter of political intervention. Attempts of lawsuits against the fast food giant, McDonald's, have been tossed out of court. The continuance will be for all attorneys-general in the United States to telescope their sights on the food companies. Robert Merrill, former governor and attorney general of New Hampshire, feels that this group of politicians will be the dominant force in the obesity argument. (Grant 2005).

Finally, it seems appropriate to recognize that Americans are capable of rethinking their private behavior. Evidence of this is seen at weight loss clinics and stop-smoking counseling sessions. This has to be considered a significant impact regulating private behavior beyond politics and into the cultural realm. There is no denying that advocates for better health attack the problem by recognition, definition, and solicitation of a solution and education of the public. Ultimately, however, is the momentous consequence of changes that citizens make in their own personal lifestyles?

Recommendations

Careful consideration needs to be placed on the following steps to assure that the epidemic of obesity is eliminated for the children in developed countries. Many programs already exist and are emphasized in many areas of this proposal. The objective is to expand on those developing projects to assist in the understanding of the tremendous task ahead of all constituents involved in the raising of children in our educational system. These recommendations may be bold at best, but are definitely required before we lose the battle altogether.

- Design a formula that would suffice all elements of growth periods for elementary children. History of report card recording specifically listed the student's weight and height. It also provided space for teachers/nurses to recommend a diet or exercise program to encourage the student to lose weight or increase activity levels. Although adults use the computations of the BMI using the following formula: $\text{weight (kg)/height (m}^2\text{)}$ or skinfold measurements utilizing a skinfold caliper, it does not fit into youth measurements.
- Record student's daily food and beverage intake during the academic hours. Preferably a health care professional, usually a school nurse, would intervene in the lower grades to assure accuracy and performance. Considerations for the daily log will be caloric intake and energy output. Careful methods of recording will have to be established to avoid each student from being stigmatized by their peers. One solution would be to set aside a time when other students are visiting the school nurse for medications or special services such as speech or physical therapy.

- Keep a student's journal at home to record meals consumed. A separate record will be evaluated on meals consumed away from home, including the frequency and type of meal. Topics such as skipping meals or methods of cooking will provide a distinctive look at the impact of obesity.
- Form a Parent Nutrition Committee to provide nutrition education in the form of handouts, postings on the school district website, or presentations that focus on nutritional value and healthy lifestyles. The development of web-based educational tools marketed and made available to schools would ensure a consistent message, and provide all educators the opportunity to work these issues into their curriculum. Changing the attitudes of parents because of their influence on food choice and availability at home is imperative to associate the life long skills and value of nutrition education. What the parent eats and makes available in the house profoundly effects what the child eats and prefers. Otherwise, efforts to modify the knowledge and behavior of children regarding their diet and activity patterns will defeat the notion to encourage changes in the whole family, including siblings. Food preferences are learned and modifiable.
- Improve the understanding of the critical role student health plays in academic stamina and performance through acknowledgement from educators, administrators, parents, health practitioners and communities.

- Consider the diversity of the student population at all times to accept and respect cultural choices and ensure that all student needs are being met.
- Increase the amount of time students are engaged during lunch time and physical activity. Recommendation for an extension of a total of twenty minutes throughout the day allows the student enough time to properly ingest food and beverage items for better digestion and energy performance.
- Provide a comprehensive learning environment, based on a continuing nutrition education program throughout the student's academic years in elementary and secondary education, for developing and practicing lifelong wellness behaviors. Children have to learn when, how much, when it is appropriate, and if that is not offered in the schools, they do not have the right tools to navigate the food environment, as they get older. Strategies used in the past regarding nutrition education have been limited by children's cognitive developmental stages. Such strategies have also dictated that short-term projects are not likely to change eating behavior. This is evidenced by inconsistent sections of the curricula covered in only three grade levels in the K-12 educational system. Continuous efforts and yearlong programs are fail proof along with well-defined and achievable goals with documented evaluation.

- Provide routine preventive screening for overweight and obese students through the efforts of the school system at local and state levels. In addition, a health care provider (usually a school nurse) can keep the parents or guardians well informed of the progress of weight status via health card reports. Sharing this information is vital to awareness of the child's health risk. Health report cards are a valuable tool for schools to educate families.
- Establish a healthy weight program consisting of BMI surveillance, healthy report card feedback, collection of fitness data to institute a standard of acceptance into the next grade level. Specific training and guidelines to perform these functions will follow the same requirements for standardized testing of academic performance.
- Set a reasonable goal of 15 percent weight loss from baseline in any given academic year reducing the risk factors of some diseases. This reduction is achievable making this standard goal a feasible one.
- Educational plans should focus on providing a variety of foods, including a range of nutrient-dense healthy food and encouraging children to taste it. Engage in a healthy action plan on providing a selective choice of nutritional food items through efforts such as salad bars with a goal for student consumption of fruits and vegetables to five daily servings and participation in moderate physical

activity for 30 minutes at least five times a week. Schools need to become the opportunity for children to learn positive things rather than to walk past the soft drink machines, vending machines, and go into the cafeteria that either has a fast food franchise in it. Cease the problem of unhealthy food costing so little and healthy food costing too much. The goal is to upset the economic scale and move forward to better eating.

- Initiate state programs to design an effective program utilizing the partnership of local universities and prevention research centers and schools of public health to employ a careful evaluation in determining what works or doesn't work.
- Promote recreational facilities by utilizing partnerships with parks and recreation departments in the local vicinity. This action assures social support for physical activity, individual adapted behavioral change, which is more of a clinical strategy and community-wide campaigns to promote physical activity.
- Eliminate the "pouring contract" in all schools. This exclusive contract with a soft drink company to stock vending machines is like putting a nail in the coffin. This widespread practice driven by schools' need for financial resources is a complete lack of state and federal funding support. It is plausible that legislature can come up with better funding schemes to help schools so that they do not resort to this measure in the first place. The focus should be on stopping the illusion of schools looking like pizza shops with books.

- Establish a comprehensive youth assessment, which includes BMI, tests to assess cardiovascular fitness, muscle strength, muscular endurance, and body composition. Document these findings to create a foundation of credible research to favorably influence students' choices about nutrition and physical activity.
- Establish positive body images by providing advice and reassurance regarding the range of healthy and acceptable body weights and shapes, which could diminish the likelihood of eating disorders. These disorders can be crippling, and should not be ignored, but because obesity dwarfs these disorders in public health significance, critics in the eating disorders field should not hamstring the obesity effort. (Brownell 2003).

Conclusion

The interest in the topic of nutrition will increase once children grasp the concepts of direct and immediate perceivable benefit for themselves: better exercise performance and improved learning. Studies indicate that early childhood obesity is the most potent predictor of obesity five year later; suggesting that to be effective, intervention to prevent obesity in childhood and adolescence must begin at a very early age. (Salbe et al 2002).

The best way to combat overweight and obesity is to prevent it. A preventive approach, rather than one which targets weight management only after one or more disease-specific consequences has become established, offers the opportunity for restoration of a healthy weight before the co-morbidities associated with obesity become entrenched and target organ damage occurs.

The painful aspects of obesity carry with it a huge amount of intense emotional suffering. Societies have a tendency to equate worthiness with personal appearance and slimness. The overall attitude of most is that obese individuals are gluttonous, lazy and stupid. Feelings of rejection, shame or depression are common. Obese children become targets of early and systematic discrimination. By the time they are teens, a negative self image is developed, and increased behavioral and learning difficulties are observed. Preventive measures can prohibit prejudice or discrimination in the school system, social situations and the eventual job market.

Because of its complex etiology, no single approach to weight management is adequate. Considering that obesity is difficult to reverse and that weight reduction and maintenance or weight loss are complex tasks, emphasis should be on lifelong prevention through good nutrition and physical activity (Wellman et al 2002). People build brick walls of excuses as to why prevention of dietary change does not occur. These include the cost of healthier food, lack of access to healthier food and increased preparation time. The biggest reason, however, is the lack of nutritional knowledge to be the greatest

barrier to change their diet. Children are too young to associate wrong food choices and physical inactivity with devastating consequences of multiple premature chronic health conditions. The adults in their lives take precautions to avoid other health crisis by immunizations, helmet laws, driver training classes, and security and safety instructions. Therefore, the obligation to avoid the public health ramifications of obesity is binding. From all implications health care and humanitarian costs, it is a price that we cannot afford (Chakravarthy 2003).

Collecting and entering accurate height and weight data, calculating BMI percentile categories, and sending individualized information home is a major undertaking for many school systems. However, it is mandatory that all parties involved at the local, state and federal level be held accountable for the epidemic of obesity and the ever increasing burden on the health care system, strain on economic resources, and far-reaching social consequences.

Government, schools, industry, academia, and foundations need to be stimulated to work cooperatively to solve the epidemic of obesity for the sake of our children. Do we really want the Federal Government involved in the business of health and education? The answer is yes because they can demonstrate both leadership and, through legislation, a coordination, a highlighting and spotlighting of the problem and potential solutions.

The World Health Organization has declared that obesity is set to become the largest disease of the century. It is appropriate for the Government to carefully examine the

causes of the problem and to enact programs and incentives which will encourage healthy eating and healthy levels of physical activity. To do otherwise is to tolerate the continuing increases in heart disease, cancer, stroke, and Type II diabetes, as well as the associate fiscal cost of obesity.

Interference in private lives is a political “hot potato”. What is difficult to understand is why anyone would question a policy in which the outcome is the personal choice of living healthy. Why would an individual deny himself or herself the opportunity to live a happy, disease-free life? Offering a range of solutions while maintaining the grandeur of personal choice is the ultimate goal. Nothing gets taken away except harmful foods and what is given is an armload of information to make sensible choices. Regulating private behavior prompts a distinctive political process. To place an issue on the political agenda, advocates must persuade others that private behavior holds important public judgment that may complicate the situation or make the intended result more difficult to achieve. The epidemic of obesity certainly falls into this category. Although regulating private behavior, like everything else in American politics often bogs down legislature stalemate. (Kersh et al 2005).

Nutrition educators, teachers and parents should examine the important role they play in modeling positive eating behavior. Those that interact with young people on food

and nutrition issues must consider their own body image and self-esteem. Specialized training must provide information and activities that focus on healthy body image, shape

and normal growth patterns throughout the lifespan. More importantly, if we expect children to follow an effective health plan there must be strict regulations of those influential people in their lives about healthy appearances.

Lastly, if we, as adult contributors of society, hold any hope for the future of our children's health, it is time to seriously take action. The educational system, with the support of the government, expects every child to meet testing standards to prove that years of homework and sitting in the classroom have paid off. The same type of requirement will benefit the health and welfare of the child by maintaining the recommended weight and avoid the continuous trend of obesity. Schools provide the ideal vehicle for the delivery of interventions for childhood obesity. Policy change can and does occur within a social, economic and political context. Calling for standards in health for children refers to a new direction in policy change. This paradigmatic policy change involves conflict, government interaction, private behavior and success in all children. One cannot argue that nutritious food and exercise will improve a child's performance in school and their overall health.

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