Fighting Childhood Obesity One Vending Machine at a Time

Childhood obesity affects over 14 million children in the US today, so let’s shift snack choices in vending machines from high calorie goodies to healthy treats.

Tag Words: Child; Obesity; Vending Machine; Epidemic; Habits; Healthy; Low Calorie; Body Fat

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Summary

With obesity being an ever-growing problem in the US, it is imperative to look at the younger generations and attempt to better their eating and exercise habits to ensure a healthier future. An exceptional number of children in the US are overweight or obese, and in an effort to help fight this epidemic, foundational changes must be made, no matter how small they may be. Our intent is to push for the removal of unhealthy snacks and drinks in school vending machines and have them replaced with smarter, lower calorie options. This will help revamp the daily dietary routine of students to help jumpstart the movement towards a healthier America.
The Issue: Childhood Obesity

Introduction

Obesity is defined as having an abnormally high proportion of body fat or a BMI (Body Mass Index) of 30 or greater (4). BMI is calculated using an individual’s height and weight to determine which of the following four categories they fall into: underweight, normal weight, overweight, or obese. It does not determine percent body fat, but gives an idea of the approximate weight a person should weigh for their height. Today in the US, approximately 66% of Americans are above the “normal weight” range with 1/3 of the total population having a BMI of over 30 (8). This ever-escalating problem has affected not only adults but also children and adolescence. During the young and impressionable years, it is vital to inculcate good values for a healthy diet and consistent exercise, however, the statistics show that obesity amongst children is on the rise just as feverishly as it is for Americans on the whole. Nearly 20% of the nation’s children are obese, as compared to 13% in 1964 (5). Approximately 1 in every 3 children has been deemed overweight or obese today and these numbers are still on the rise (3).

This is not a problem to be taken lightly as obesity increases the risks of numerous diseases later in life such as diabetes and heart disease (3), but with such a universal and involved dilemma, it is difficult to implicate policies and plans that will reign successful. Starting small is the key. Looking at how children and teens make their food choices, why they make them, and how we could possibly work to alter their food choices is the foundation that should be started on to alleviate the obesity epidemic we are currently facing.

The Issue: There are several main reasons why American’s eat the way they do. Compared to how we ate 30 years ago, portion sizes have drastically increased in the family household as well as dining out, and variety has truly become the spice of life. With so many different options out there, we want to eat a little bit of everything, and when combined with the fact that foods today are far more sugar and fat laden than they were years ago (thanks to fast and processed foods), the calories are getting pounded down without even a second thought. Easy access to things like vending machines filled with candy bars and chips makes grabbing lunch on the go at work even easier, and even unhealthier (9). Marketing and the development of specific “social norms” has added heavily to the problem, as well. It has become a culturally acceptable tradition to chow down on oil-doused popcorn at the movies or inhale 3, 4, 5 hotdogs at a baseball game. Family television time can no longer occur without bags of greasy fried goods and sugary snacks, not to mention the gallons of non-diet soda (2).

All of issues named above can only be remedied by starting at the individual level. No one can stop TV commercials for McDonalds or eliminate deeply embedded social snacking, but small steps can be taken by using education in schools to give children the tools and knowledge they need to make the right decisions about their nutrition and physical activity. Another step that can be taken is to reform school meal plans or offer healthier options for students who build up an appetite during the day and need a snack to pull them through. Vending machines in many high schools are comprised of things like Twix bars, cookie packs, and Mountain Dew, all of which may be enticingly delicious, but because they are easy to grab and cost only a few quarters, students press C3 before they even think about what they’re putting in their mouths. It would be wise for schools who are concerned with costs and ease to consider replacing the foods in school
vending machines with healthier options like apples, granola, and ice teas. This simple fix has a relatively high cost-benefit and would not require entire school lunch programs or cafeterias to renovate themselves. It may just be one of the simplest small fixes to contribute to a healthier nation of children and teens.

Such attempts have already been made and proved to be successful in states such as Arkansas, where legislation was passed in 2006 by former Governor Mike Huckabee to have junk food removed from vending machines and replaced with healthier options such as juice, milk, and healthy snacks. In 2009, Senator Tom Harkin of Iowa and Senator Lisa Murkowski of Alaska co-authored a bill to monitor the snack quality in vending machines. Their plan was to allow for the US Department of Agriculture to establish rules for determining the foods and drinks that would be removed from and added to vending machines (6). Though some believe that these cases involve the federal government overstepping jurisdiction into state and local issues, obesity is a national concern, and thus changes that have the potential and likelihood to be made by individual states, have the right to be implemented to some degree by our nation’s government.

There is an incredible variety of healthy snacks and beverages that could be used in “healthy” vending machines. One major benefit to implementing this plan is that the current vending machines can be used in most cases and just the goods being sold in them can be switched out. In drink machines, calorie-laden Coke and Sprite can be replaced with water, flavored waters, Honest Tea, Low-fat milk, 100% juice drinks, Low calorie kids drinks like Tropicana Fruit Squeeze, and diet sodas for those who still want their caffeine fix and sweet carbonation. In the snack machines, removing some of the most unhealthy of the candies and treats and putting things like Baked! Lays, granola, trail mix, nuts, fruit juice gummies, pretzels, goldfish, crackers, and raisins (1). Another option for schools, in addition to replacing the current snack options, is to invest in purchasing a cold food vending machine, which can range from around $1000 to upwards of $5000 (7). Adding this valuable mix of nutritious food options to the hallways of local high schools give students an even better opportunity to stock up on their fruit and veggie needs for the day. Such vending machines could include anything from carrot/celery sticks, apples slices with peanut butter or caramel, fruits (apples, bananas, fruit salad, etc.), deli meat/cheese/triscuit packets, and other refrigerated foods that children and teens would be inclined to grab on their way to their next class (1).

Taking several snacks that are typically found in vending machines, lets compare the overall calorie content of each and how they size up to healthier snacks (keep in mind, these are small portions of each snack food, many vending machines have upped the ante and supersized their options):

<table>
<thead>
<tr>
<th>Current Snacks</th>
<th>Calories</th>
<th>Alternative Snacks</th>
<th>Calories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twix (2 bars)</td>
<td>291</td>
<td>Pretzels (snack bag)</td>
<td>120</td>
</tr>
<tr>
<td>Reeses (2 cups)</td>
<td>232</td>
<td>Apples (large)</td>
<td>116</td>
</tr>
<tr>
<td>Skittles (1 bag)</td>
<td>240</td>
<td>Carrot sticks (88 g)</td>
<td>31</td>
</tr>
<tr>
<td>Lays Potato Chips (snack bag)</td>
<td>150</td>
<td>Baked! Lays Potato Chips (snack bag)</td>
<td>130</td>
</tr>
<tr>
<td>Fritos (snack bag)</td>
<td>160</td>
<td>Raisins (40g)</td>
<td>130</td>
</tr>
<tr>
<td>Cheez-Its (snack bag)</td>
<td>160</td>
<td>Goldfish (1 pouch)</td>
<td>140</td>
</tr>
<tr>
<td>Chips Ahoy Cookie</td>
<td>170</td>
<td>Trail mix (30 g)</td>
<td>120</td>
</tr>
<tr>
<td>pack (35 g)</td>
<td></td>
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<td>------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Coca-Cola (12 oz.)</td>
<td>140</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Bull (1 can)</td>
<td>110</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lipton Iced Tea (8oz.)</td>
<td>83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-fat milk (8 oz)</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honest Tea (8 oz.)</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What must also be brought into consideration, aside from calorie count, is that snacks like apples, trail mix, granola, etc., are not only lower in their calorie count than most junk foods, but also provide more nutrients such as vitamins, minerals, protein, and fiber, which gives the students what they need to feel fuller longer, boost their immune system, and maintain an overall healthier body. Eating a Milky Way may satisfy you now, but within an hour you are more than likely going to be back at that same vending machine to pick your next devious treat, doubling the calories you would have eaten if you opted for a bag of nuts that can keep you full for hours.

Community Service Project: In an effort to improve upon this obesity epidemic utilizing the knowledge and changes described above, we will be sending a letter to our legislature defining the problem of overweight children in the US and include ways in which they could possibly help to ameliorate the situation. Two methods we will include in our letter will be to alter the snack foods and drinks vending machines are stocked with in school districts throughout New Jersey or to, at the very least, have the calorie content of current snacks overtly displayed on each snack/drink within the machines. Ideally, changing the food available would be the most efficacious way to help manage the diets of students in school, as they would have no choice but to switch to healthier eating habits, but in posting the calorie content, some students would be deterred from making the decision for the candy bar over the animal crackers. This would also involve, however, students having the understanding of diet and nutrition, which many younger children have not yet developed. Possibly posting an informative blurb next to the selection buttons on the vending machine describing what total caloric intake should be during the day and providing an example of a typical students diet to directly relate the reality of eating to the students making their snack selections. In addition to the letter to the state legislature, each group member has also sent an editorial letter to their local high school, sharing their concerns and research on the growing problem that is childhood obesity and suggesting action be taken in one small form or another, such as changing vending machine snacks.

In addition to changing the snacks available, posting the calorie content itself of each snack will help deter students from selecting the less healthier of the options. However, especially with the younger generations, students may not fully grasp the concept of what an appropriate diet encompasses. This type of change would be more effective for older children and teens, as well as adults who may also consume snacks from the vending machines throughout the day. To help younger children (such as those still in grade school or the earlier years of high school) understand what a normal, healthy diet should consist of calorie-wise, a small flyer or informative blurb should be attached to the machine near the selection keys so that students may gain a better understanding of what their selection choice means by way of their total calorie intake for the day. The blurb should include information on the suggested daily caloric intake for children of various ages and sizes, in addition to an example of what the average daily diet of a young teen looks like, showing calories, so that students can relate the information directly to themselves. This change will help students consider their dietary options a bit more thoroughly and possibly cause them to alter their eating habits on their own, even if it’s by only a few
calories. It will get them thinking and making better, or at least more conscious, decisions about their nutrition.

In pursuing nutritional improvement amongst the nation’s younger generation, it is possible to help instill healthier eating habits that can stick with them for the rest of their lives. Fighting childhood obesity is a difficult undertaking, but in starting at a foundational level and working up the ranks, food choices and overall calorie intake can become a conscious part of a child’s life. By offering mostly healthy options, especially for quick-decision snacking and meals like in vending machines, students will be pressed to find nutritious snacks they enjoy, leading to an overall healthier lifestyle. As small a change as altering vending machine snacks may be, it’s the first step towards helping improve the statistics on the number of overweight and obese children in the US today.

References


Dear Senator Beach,

As part of a community project for our Ethics in Science Course here at Rutgers University, I am writing to you to express our concern over the growing obesity epidemic that is striking our nation’s youth and offer an idea for a small and subtle change that has the potential for a great impact on the health of children and teens in the US. Starting with one simple project, I believe it’s possible to help upturn the downhill trend of unhealthy nutrition and eating habits in teens and children today.

66% of Americans are deemed overweight or obese, with nearly 1 in every 3 children falling into this category (3, 8). Obesity is on the rise, as 13% of children were classified as obese in 1964 while 20% now have the same rank, largely due to the unhealthy eating habits we have developed through marketing, media, societal norms, and easy-accessibility of heavily processed foods (2, 5). Controlling weight is an important aspect of future health, since things like obesity can contribute to diabetes, heart disease, and a slew of other illnesses later in life (3).

We have delimitied the boundaries of a plan that has great potential to help ameliorate the growing epidemic of childhood obesity in this nation. Ultimately, making a shift in the food and drink options offered in school vending machines from sugar-laden, high-calorie snacks to healthy, filling treats would provide a push towards a healthier young generation, however, even so much as passing legislation to oblige schools to post calorie content for each item in the vending machine could potentially have a significant impact. Often times, students press C3 for the chocolate bar without even considering the negative aspects – high calorie, sugar rush followed by a crash, limited vitamins and nutrients. If nutritional data, at least the calorie content, was overtly posted along side each item, it would get students thinking and making better, or at least more conscious, decisions about their nutrition, especially if they have an understanding of the overall impact of every item they consume. For more information on our plan, please see the attached documents, as they more thoroughly explain the rising obesity problem in children and delve deeper into our plan of action.
Dear Matt Gruber,

Being the production leader of the Columbian, the student newspaper of Columbia High School, I thought I should inform you that there is growing overweight and obese epidemic happening in school across the country. In our current population 36.2% of children are at least overweight. Not only that, but vending machines are a major contributor too, with soft drink consumption increasing over 300% in the past 20 years and 26% of children who access to soft drink consume them. I write to you today to inform you of this problem and in the hope that through the Columbian we can educate children, helping reduce the use of vending machines.

I look forward to corresponding with you,
Adam Kant

Dear Vernon Township High School,

As part of a community project for our Ethics in Science Course here at Rutgers University, I am writing to you to express our concern over the growing obesity epidemic that is striking our nation’s youth and offer an idea for a small and subtle change that has the potential for a great impact on the health of children and teens in the US. Starting one school at a time and with one simple project, I believe it’s possible to help upturn the downhill trend of unhealthy nutrition and eating habits in teens today.

66% of Americans are deemed overweight or obese, with nearly 1 in every 3 children falling into this category (1,3). Obesity is on the rise, as 13% of children were classified as
obese in 1964 while 20% now have the same rank, largely due to the unhealthy eating habits we have developed through marketing, media, societal norms, and easy-accessibility of heavily processed foods (2,4). Controlling weight is an important aspect of future health, since things like obesity can contribute to diabetes, heart disease, and a slew of other illnesses later in life (3).

The level of difficulty that comes with attempting to completely revamp the dining and food systems at all schools across the nation is beyond that of the means of a college courses’ efforts in one semester. However, starting from the base of the issue and offering palatable and easy changes to such systems is far more feasible. One such alteration that can help get the ball rolling on teen nutrition is to replace the sugar and fat laden snacks and drinks in school vending machines with healthier options that offer fewer calories, less fat, and more fiber, vitamins, and overall nutrition. Such attempts have already been made successful in places like Arkansas, where former Governor Mike Huckabee and the legislature managed to remove junk foods from vending machines in 2006 and replaced them with healthier options (5). Though legislation for such acts hasn’t been implemented in New Jersey, individual schools can make the switch to better snacking options to help their students not only develop smarter eating habits, but improve the health of the school as a whole. Though the change is small, it is the first step in fighting back against obesity in children and teens and it is imperative to start somewhere.

When looking at the caloric values, not to mention the fat and sugar content, of many of the snacks and drinks in typical vending machines, it is easy to see why mindlessly pressing C3 and pulling out your Twix candy bar as opposed to a bag of Goldfish adds more than just a sugar-high and crash to your day. One package of Twix contains 291 calories, whereas if a student were to opt for something like Goldfish (one pouch contains 140 calories) or even a snack sized bag of pretzels or trail mix (both at 120 calories), they would be cutting their calories in half and be receiving more nutrients, or atleast less of the unhealthy fats and straight sugar. Vending machines that offer apples and carrot sticks provide even better alternatives to the snack bags of cookies and chips, keeping students fuller, longer, in addition to the added health benefits and slashed calorie counts. Even drinks are pounding on the pounds with an 8 oz. can of Lipton sweetened Iced Tea containing 83 calories compared to Honest Tea’s 40 calories in the same serving. Every little change that can be made will add up over time to healthier habits and a healthier student body.

So think of it the next time your stomach starts grumbling and you put your dollar into the snack machine…shouldn’t there be a healthy choice somewhere amongst the candy or even no junk at all to avoid the need to resist temptation?

Most Sincerely,
Alex Ciuffitelli

I am doing a class project on ways we change the way students eat. We are investing our research on students from the beginning of high school to the end of their college career. My professor wanted us to to present you with an editorial.
"Instead of having sloppy Joe Tuesdays, wing Wednesdays, or pizza Friday. The school should promote more healthier eating days like hummus Mondays or salad Tuesdays. We should have at least a day out of every month to promote healthy eating and not greasy foods that causes health problems."

Thank you taking the time to hear me out
Kevin Small

Obesity is defined as having an abnormally high proportion of body fat or a BMI of 30% or greater. Approximately 66% of Americans are above “normal weight.” It is estimated that 1 in every 3 children have been deemed overweight or obese today and these are still on the rise. This is because Americans do not eat the way they did 30 years ago. People dine out more and portion size has dramatically increased in the household and even at restaurants. Easy access things like vending machines and snack lines play a big role in schools because it is easier to buy a lunch than bring a lunch to school. In school the parents do not monitor how much “junk” food their children eat. Putting healthy foods in vending machines and snack lines can dramatically influence the way Americans children eat.

Howard Barbieri

Dear Ms. Covino.
Hi, I’m Clem Udovich and used to attend North Hunterdon (not sure if you would remember me or not) and am currently a junior at Rutgers planning on graduating next spring. Currently I am involved in a class called “Ethics in Science”. As part of the course curriculum we have divided the class into groups of five and are working on different community service projects. The Community service project my group has proposed in particular, is eating healthy in schools. Of course in order to make a difference we are starting small and focusing more on changing the food in vending machines or at least having some sort of calorie count that is visible in them.

Anyway, as suggested by our professor, the members of my group are submitting small editorials to our high school newspapers in order to get the word out. I have always been a fan of the Paw Prints and if you had a minute to glance over this I would really appreciate it.

Today, in the US, about 66% of Americans are above the normal weight ranges with 26% having a BMI (body mass index) of over 30. In other words, America is fat. This ever-escalating problem is affecting not only our countries adults, but our children and teenagers as well. This is not a problem to be taken lightly. As Highschoolers on their way too college it is not too late to start eating right and avoiding heart disease and diabetes now. Of course there are many things to blame unhealthy eating on: its cheap, it tastes good, unparalleled marketing strategies, stress, too busy to eat at normal hours, and the list goes on and on and on. But common guys, these are just excuses! Lets take some control of this issue and invoke some will power in our selves and make this world a healthier place for future generations. Now this doesn’t have to change overnight, take baby steps if need be. But next time you’re at a vending machine, go with some trail mix instead of a bag of BBQ chips, or an iced tea instead of a cherry Pepsi. Not only will it be a healthy choice, but also I promise that a continued nutritious diet will have you feeling great and
more energetic. Energetic enough to maybe put down the video games and start exercising regularly? hold on, lets not get ahead of ourselves… GO LIONS!!!

Thanks for your time and hope you have a great year!

Clem Udovich