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# Childhood Obesity

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Fieldwork Summary Report: The Food Education Project

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**Abstract**

Childhood Obesity and diabetes is on the rise and the health risk for developing various diseases is a major public health issue. This paper examines the public health issue on childhood obesity and diabetes. This paper explains the importance and magnitude of this problem by providing statistics, research efforts, educational efforts and the importance of preventing childhood obesity and diabetes. The paper will summarize, explain observations and provide insight on fieldwork completed through a project called The Food Education Project. The project focuses on addressing the major public health problem through educating children and adolescents on health, nutrition, food and the environment. The project also focuses on improving the resources and tools that are currently in place in preventing this epidemic. This paper will also address current statistics provided by various institutions.

*Keywords:* childhood obesity, diabetes, nutrition, health, environment

**Introduction**

Childhood obesity is a growing public health concern that has doubled in children and quadrupled in adolescents within the past 30 years (Centers for Disease Control and Prevention, 2014). Recent data indicates childhood obesity rates continue to remain high. However, it is important to understand the health risks which are associated with children who are obese. The Center for Disease Control and Prevention claims the health risks associated with children who are overweight and obese are a major public health threat. Current research indicates the major reason to raise awareness on preventing childhood obesity is because of the health risks which could develop now such as coronary heart disease, type II diabetes, cancers, hypertension, dyslipidemia, stroke, liver and gallbladder disease, sleep apnea/breathing problems, osteoarthritis, gynecological problems, social and psychological problems. (Centers for Disease Control and Prevention , 2014)

According to the Centers for Disease Control and Prevention (CDC), the percentage of children aged 6-11 years in the United States who were obese increased from 7% in 1980 to 18% in 2012 and increased for adolescents aged 12-19 from 5% to 21% during the same period of time (Centers for Disease Control and Prevention, 2014). It is evident this is a growing problem and children and their health and well-being is at an ultimate risk. The CDC defines obesity as having excess body fat and defines overweight and obesity as being the result for “caloric imbalance,” which refers to few calories used for the amount of calories which are consumed, which are affected by several genetic, environmental and behavioral factors (Centers for Disease Control and Prevention, 2014).

Recent research provided by the CDC, claimed American Indian and Alaska Native (20.7%) and Hispanic (17.9%), children aged 2 to 4 years of age are among the highest in regards to having the

highest rates of obesity (Centers for Disease Control and Prevention, 2014). Although, there are certain ethnicities in which obesity rates are higher, it is evident childhood obesity is a growing problem.

There are many factors which contribute to reducing childhood obesity and creating a healthy environment where children are able to make healthier choices. There are many procedures which could help decrease the amount of childhood obesity in America. Many factors, such as having a healthy school environment, healthy school lunch options, curriculum on health education and nutrition, policies and initiatives, decreasing the amount of television and media time children are exposed to, all help address this growing problem.

### **Background**

The Food Education Project (FEP), is a non-profit organization located in San Francisco California. FEP's mission is to improve community health by teaching practices through environmental awareness. FEP focuses on four main components which are health, nutrition, food and environment. Focusing on these four components allows students to understand how the body functions and the importance of food production. FEP is aware that students need to understand how food is grown in order to learn the impact it has on our health and overall well-being. FEP believes health begins at home and is emphasized at school. (The Food Education Project, 2013)

In order to accomplish their mission FEP partners with three different schools in the San Francisco area. The partnering schools are Daniel Webster Elementary, Immaculate Conception Academy and McKinley Elementary. The classes are comprised of a team of educators and clinicians who currently work in San Francisco and have a passion for making a change in the lives of children. FEP's classes are taught in-school and out of school academia with a student to teacher ratio of 1:6 (The Food Education Project, 2013). FEP's approach is to educate students on the latest health and nutrition information and encourage students to learn about urban gardening (The Food Education Project, 2013). FEP is empowering local schools, families, students and communities to be aware of the impacts the environment, nutrition and food have on our health.

**Services/Products**

Currently, FEP has a 36 week academic course which is composed of the following methods: hands on health academia, updated nutrition information, including how to take your blood pressure, soil and agriculture information, hands on work in the garden, cooking demonstrations and cooking lessons, guest speakers from local health clinicians and partners, waste management strategy and field trips (The Food Education Project, 2013). An important component that FEP emphasizes with their students is the fact that it is possible to eat what you love and stay healthy. With FEP students have the opportunity to learn about the health benefits of eating right and the impact that eating healthy will have on their lives as they continue into the adolescent and adult stages in life.

**Research Efforts**

One of the major health issues FEP is trying to prevent is children from developing obesity and type II diabetes. Educating children and families about the impact food, nutrition and the environment have on their health are some the major factors which aid in preventing childhood obesity and type II diabetes. Current research indicates that childhood obesity and diabetes is on the rise. The CDC claims there are significant racial and age disparities with obesity prevalence among children and adolescents (Centers for Disease Control and Prevention, 2014). This is a major issue when addressing which populations have a higher chance of developing childhood obesity and diabetes. Also, the CDC states that prevalence rate among the following ethnicities were 22.4% among Hispanics, 20.2% among non-Hispanic black youth, non-Hispanic white youth 14.1% and 8.6% among non-Hispanic Asian youth (Centers for Disease Control and Prevention, 2014).

In 2012 the CDC claimed there were 1.7 million new cases of diabetes reported among individuals who were 20 years or older. (Centers for Disease Control and Prevention, 2014). Presently, the CDC states that there are over 29.1 million people of the U.S. population who have diabetes, 21.0 million people diagnosed and 8.1 million people undiagnosed. These are alarming numbers that have a huge impact on the overall well-being of our nation. As of 2012, the CDC reported the estimated costs in the United States for direct and indirect cost for diabetes to be

a total of 245 billion dollars, with the direct medical costs being 176 billion dollars and the indirect cost to be 69 billion dollars. (Centers for Disease Control and Prevention, 2014)

FEP understands the importance of having up-to-date research and data on the burden of diabetes and obesity. Having current research allows the program to improve their methods of education and continue to develop curriculum and interventions which will aid in preventing childhood obesity and diabetes. Also, with having up to date research, FEP is focusing on understanding the behavioral component of the benefits of good health. At a recent training with FEP, the staff and received a manual emphasizing the importance of understanding the message on preventing childhood obesity from the State Board of Education and the State Superintendent of Public Instruction. One important quote from the document stated the following “good health and academic success go hand in hand. Healthy children make better students, and better students become healthy, successful adults who are productive members of their communities.” (Mitchell R. Theodore, 2014).

FEP strives to provide quality health education to with their program. In order to provide quality education; FEP is reviewing The Health Education Content Standards for California Public Schools, Kindergarten through Grade Twelve. The content of these standards focus on the importance of the skills and knowledge students should have at each level. The goal of each standard is to improve health literacy and academic achievement in California (The Board of Education, 2014). Currently, there are eight standards which are essential health concepts, analyzing health influences, accessing valid health information, interpersonal communication, decision making, goal setting, practicing health-enhancing behaviors and health promotion. Each of these standards is aimed at successfully improving the overall quality of health education in California schools.

### **Policy**

Policies and advocacy in preventing childhood obesity and diabetes are very important to FEP and the future of our nation. A major advocate for preventing childhood obesity is the first lady Michelle Obama. The Let’s Move campaign seeks to eliminate obesity in a generation. The campaigns main points are empowering parents and care givers, providing healthy food in schools, and improving access

to healthy affordable food (Obesity Among Low-Income Preschool Children, 2014). Along with Michelle Obamas efforts to eliminate obesity, the American Public Health Association has also been proactive in attempting to prevent childhood obesity. Policy number 200317, titled Food Marketing and Advertising Directed at Children and Adolescents, addresses the increasing amount of food advertising and marketing young children and adolescents are being exposed to. Children and adolescents can easily be influenced and deceived by many of the ads seen either at school or through a commercial at home. Under Policy 200317, the APHA proposes seven prevention methods in which it requests the United States Department of Agriculture, Center for Disease Control and Prevention, school districts, federal government, legislation, congress and non-profit agencies to take action in protecting children and adolescents against food marketing and advertising ads. (The American Public Health Association , 2014)

One of the Healthy People 2020 goals is to reduce chronic diseases and promote health by reaching and maintaining a healthy body weight. (Healthy People 2020. Nutrition and Weight Status, 2013). Healthy People 2020, focuses on addressing nutrition and weight status by providing eight essential objectives which could aid in the prevention of obesity. The main objectives include: healthier food access, healthcare and worksite settings, weight status, food insecurity, food and nutrient consumption, and iron deficiency.

An important institution, such as, the World Health Organization has also taken initiative in addressing this challenging public health issue. The WHO stated that overweight and obese children are likely to stay obese into adulthood and more likely to develop non-communicable disease like diabetes and cardiovascular diseases at a younger age (World Health Organization , 2013).

According to the WHO, the global strategy to prevent childhood obesity has 4 main objectives on addressing this issue such as: reducing risk factors for chronic diseases, increasing awareness and understanding the positive impact



prevention interventions have, develop, strengthen and implement global, regional, national policies and action plans and monitor science and promote research (World Health Organization , 2013).

Along with reviewing the WHO objectives, Policies and Healthy People 2020, FEP is also evaluating the implementation of their project by providing students with resources and educational material. Students, who are enrolled in FEP, are provided with a manual which address the material which will be covered for the year. The manual provides students with lesson plans, quizzes, a vitamin list, a section on biology and the body, a season food list, plant/environment flash cards, recipe list and a variety of resources which students and families can access. Also, students are provided with a survey to determine which lesson plans were beneficial to them during the semester. The goal of the surveys is to provide feedback to the educators on what was successful and not successful. Also, FEP is evaluated to ensure programmatic impact is taking place at an individual and community level (The Food Education Project, 2013). This allows FEP to review which changes can be made in order to continue to have a successful program and aid in preventing childhood obesity and diabetes.

### **Implementation of the project**

FEP recognizes that addressing childhood obesity will decrease the health risks that are associated with obesity. In order to accomplish this FEP has developed a teacher's curriculum manual which provides the essential food education curriculum for the year. It is also used to enhance the students learning abilities and experience. The purpose of it is to enhance community health by: strengthening relationships between education and community development by offering activities in nutrition, health, and agriculture, increasing awareness and level of ability to prepare, cook, and grow food products, focus on teaching techniques and practices which encourage greater health and

environmental awareness and exploring awareness around health and how certain foods affect health (The Food Education Project, 2013).

The purpose of the teacher curriculum manual and the student manual provided by FEP are to define, communicate and understand FEPs mission and to increase awareness of the importance of the impact food has on our health and well-being. Also, another important aspect of the teacher curriculum manual are the instructional outcomes which discuss the following: community health and how health is affected by external factors, exploring ways to decrease exposure to toxins and chemicals in the environment, discussing current health issues and etiology of these issues, discussing how our health is affected by the food we eat, identifying the effects of eating all food categories, identifying resources in the community to learn where local farms are in the Northern California region, exploring ways to plant and grow food, identifying recipes to prepare food for individuals, investigating the positive outcomes adhering to the new food pyramid, identifying skills to prepare and cook food safely and efficiently, exploring ways to purchase and budget foods at the local grocery stores and Farmer's Markets (The Food Education Project, 2013).

FEP has also designed three surveys in which students have the ability to decide and make recommendations on some of the lesson plans. One of my tasks for FEP was to create an excel sheet documenting the number of responses of what an ideal salad would be for a student. The survey provided students with options such as the type of salad greens, protein, starch, vegetables, fruit, crunchy toppings and dressing they would add to their salad. Also, the students were able to select 5 of their favorite toppings and write why they selected these toppings.

Along with the surveys, there were also three in class exercises given to students to provide the educators feedback on how well the students understood the lesson plans. The exercises were titled My

Food Plate, Biology and Health and Our Bodies. Reviewing the three in class exercises allowed me to comprehend the different learning styles each student had. Also, it allowed me to take note of the importance of reviewing questions students did not answer correctly.

My fieldwork with FEP consisted of in class time as a health educator with students, program evaluation, reviewing fundraising/grant opportunities, researching and applying environmental components of childhood obesity and creating presentations and lesson plans on obesity and diabetes.

### **Results**

Currently, FEP has launched an Indiegogo campaign for childhood obesity and diabetes prevention. FEP is dedicated in preventing childhood obesity and has developed a curriculum which encourages over 900 youth and their families to develop a healthy lifestyle. The curriculum educates on the importance of selecting and developing healthier eating habits and behaviors (The Food Education Project, 2013). Currently, there are many projects in place trying to address the obesity epidemic.

Currently, there is a need for more research in order to address which outcomes are working and which are not. However, in 2011 The Affordable Care Act provided funds for CDC to conduct a 4 year Childhood Obesity Research Demonstration project (CORD)(Centers for Disease Control, 2014). According to CDC, CORD objectives are to improve children's nutrition and physical activity behaviors in places where they live, learn, and play. The interventions will focus on five different settings such as health care centers, schools, early care and education centers, communities and homes. (Center for Disease Control, 2014)

The determination and the dedication the FEP team has is one of the most incredible experiences I have had a privilege to be a part of. I am blessed to have been a part of such an amazing project that is preventing a major public health issue. Currently, the FEP team consists of an executive

director, health educator, chef educator, fellowship graduates, classroom assistants, and grants/sponsorships, board of directors, advisory board and volunteers. Also, donations from organizations such as Kelly-More Paint Company, Toluma Farmstead Creamery, Flowercraft Garden Center, Green Gulch Farm, Flora Grubb, San Francisco Environment, Good Life Grocery, Patxi's Pizza, Ketchum, Community Organization Representation, Project and the Volunteer Legal Services Program-Latham & Watkins and Winston & Strawn, and Sloat Garden Center, have helped towards the success of FEP. Lastly, FEP partners with Daniel Webster Elementary School, McKinley Elementary School and Immaculate Conception Academy.

### **Application**

**Childhood Obesity** in the U. S. and globally has doubled within the last two decades. There are many risk factors associated with obesity e.g., diabetes, obesity, heart disease, high blood pressure, and high cholesterol. According to the WHO, childhood obesity is one of the most challenges issues of the 21<sup>st</sup> century (World Health Organization , 2013). The WHO also states the diseases which are associated with obesity can be prevented. It is important to prioritize and address this public health issue as soon as possible.

There are many factors which contribute to childhood obesity. For instance, dietary and behavioral lifestyles, media, marketing, school lunch policies all play a role in the health and well-being of the future. FEP believes in preventing childhood obesity, along with the CDC and WHO. The WHO, states that in order to prevent childhood obesity supportive policies, environments, schools and communities who aid in shaping parents' and children's choices,

selecting healthier foods and regular physical activity all play a role in addressing this public health issue. (World Health Organization , 2013)

Therefore, valid research, effective policies and methods which address childhood obesity and creating successful programs that will impact children, families and communities, all aid in preventing childhood obesity. Also, programs have been developed and implemented to try to reduce childhood obesity, but it is evident there is a need continue addressing this epidemic. Implementing and educating on nutrition, health, food and environmental factors all aid in preventing and reducing childhood obesity.

#### **Competencies addressed**

There are four major components which I was able to focus on and accomplish during my fieldwork with FEP. Four of the components I focused on were program evaluation, fundraising/grant proposals, applied research on diabetes and obesity and the environmental component. During my first week at FEP I had the opportunity to assist in a classroom setting and work with students. One of the competencies addressed during my fieldwork experience was the Social and Behavioral Sciences competency. During the Social and Behavioral Sciences course we learned about a number of theories which could be applied and implemented when targeting nutrition and weight. One of the theories which stood out to me was the Ecological Model. The Ecological Model address specific behavior change and could be applied when attempting to determine interventions with individuals, communities, groups, organizations and policy levels of practice. Also, within this model there is the Social and Ecology Model for Health Promotion, which focuses on a multidimensional environment, human-environment interactions, health behavior and the reasoning behind individual behavior.

During training with FEP, the staff and I reviewed charts on developmental theory, cognitive theory and psychosocial theory. We also learned about the stages of child and adolescent development and the importance of understanding each stage in order determine how to better assist the FEP students. The staff and I also reviewed how to utilize Bloom's Taxonomy, which consist of evaluation, synthesis, analysis, application, comprehension and knowledge from a cognitive domain perspective (The Food Education Project, 2013). Learning about the Ecological Model and attending the training allowed me understand the cross cutting values of systems thinking and the importance to continue developing my critical thinking skills.

The Environmental Health component was addressed and discussed for the majority of my fieldwork experience. Taking the environmental health course allowed me to understand the importance of environmental factors which affect the health of communities. The lesson plans FEP has in place for students emphasize biological, physical and chemical factors which impact our everyday life. Taking this course allowed me to understand the variety of methods there are when dealing with environmental health issues such as developing policies, educating individuals and communities, and addressing the importance of reducing/preventing exposures. Also, with FEP I learned it is important to understand our environment and if our environment is keeping us healthy or not.

My fieldwork experience allowed me to also learn about urban gardening and the importance of eating organic food. I was able to understand not only how our food is grown, but how to take care of a garden with organic and pesticide free products and soils. It was very rewarding to observe how the children were able to learn how to garden, how to harvest, and most importantly where there food is coming from. For instance, during a food sampling lesson plan at Daniel Webster Elementary, the

students were able to go outside and harvest the basil they had been growing. The students used the basil to make fresh spring rolls during class and learned about the history of Spring rolls.

One of the courses that helped me with fundraising and grant opportunities at FEP was the Public Health Program Planning, Management and Evaluation course. This course allowed me to provide FEP with resources on the various grant opportunities available to them. I was able to research a variety of potential funders for FEP and develop an excel spreadsheet where current and future FEP staff could review potential funders. Researching potential grant funders for FEP allowed me to learn about the amount of grants available for projects aimed at preventing childhood obesity.

My fieldwork with FEP allowed me to have a better understanding of the different cultures FEP is involved with and how diverse the program is. During a lesson plan at Daniel Webster Elementary school, the students were asked to name some of the vegetables in Spanish. It was interesting to see how many students were able to translate from English to Spanish the various names of the vegetables which they were given. Working with the diverse population at Daniel Webster Elementary School, allowed me to critically think of how I would be presenting my presentations to the students there on diabetes and obesity.

## **Conclusion**

My fieldwork experience with the FEP was very empowering and encouraging from a personal and public health perspective. I learned the main fundamentals of how to start a project like FEP. I enjoyed applying what I learned in many of my public health courses with the children and adolescents at FEP. The most rewarding part of my fieldwork was being able to observe how much the children were learning through the curriculum and hands on experience FEP was providing for them. FEP does an amazing job providing students the opportunity to learn about the various ethnic foods our country has.

There are not many projects that are currently in place like FEP in the bay area. I enjoyed my fieldwork experience and also being able to taste and sample many of the recipes on the lesson plan. The trainings and experience I was able to receive from FEP have deeply impacted my life. Currently, in the community where I live there is not a project in place like FEP. My fieldwork experience with FEP has encouraged me to begin collaborating with various health educators, schools, agricultural businesses and food markets to begin improving the health in my community. I am blessed to have been able to have such an amazing experience with the team and students at FEP.



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[www.cdc.gov/obesity/childhood/lowincome.html](http://www.cdc.gov/obesity/childhood/lowincome.html)

**Appendices**

Survey sample

Agency **Daniel Webster Elementary**

Staff Person Completing the report : Maria Vasquez

Number of Survey Forms Returned: 17

**PART A**Question 1. What would you put in your ideal salad?

Response	Number of Responses
<b>Salad Greens</b>	
Iceberg Lettuce	10
Spinach	8
Mixed Greens	8
<b>Protein</b>	
Grilled Chicken	10
Fried chicken	12
Beef	12
Ham	15
Beans	10
Tofu	7
Chickpeas	3
Hard-broiled Eggs	5
Chicken Salad	7
Tuna Salad	6
Cheese	10
<b>Starch</b>	1
Pasta	8
Potatoes	9
Macaroni	10
<b>Vegetables</b>	
Bell Peppers	3
Onions	5
Carrots	9
Peas	6
Olives	5
Tomatoes	6
Corn	8
Broccoli	6
Sprouts	4
Celery	4
Cauliflower	3
<b>Fruit</b>	
Apples	9

Raisins	7
Pears	6
Grapes	7
Mandarin Oranges	4
Strawberries	6
Blueberries	7
<b>Crunchy Toppings</b>	
Water Chestnuts	1
Almonds	3
Candied Walnuts	3
Crackers	3
Croutons	4
Fried Wonton Pieces	3
Tortillas Strips	3
<b>Dressing</b>	
Ranch	2
Blue Cheese	5
Thousand Vinaigrette	4
Balsamic Vinaigrette	3
Raspberry Vinaigrette	3
Italian	3

