Intervention for Obesity with Patient Education Handout

Promoting Healthy Eating and Exercise

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Introduction

Community Health Centers

Community Health Centers, initially named neighborhood health centers, were first funded by the Federal Government as part of the Office of Economic Opportunity (OEO) in 1965 (Taylor, 2004). The original centers were designed and administered with significant community involvement to ensure they remained responsive to community needs. By the early 1970s, there were about 100 community health centers to provide accessible and affordable health care to those who needed it the most (Wisconsin Primary Health Care Association). Today, there are close to 1200 community health centers across the United States – in all 50 states, the District of Columbia, as well as the territories and commonwealths – that provide primary and preventive health care to more than 17 million people living in rural and urban medically underserved communities (Wisconsin Primary Health Care Association).

To receive federal funding to be a community health center, a clinic must meet certain statutory requirements. Under the §330 of the Public Health Service Act, it must:

- Be located in a federally designated medically underserved area (MUA) or serve a federally designated medically underserved population (MUP).
- Have nonprofit, public, or tax exempt status.
- Provide comprehensive primary health care services, referrals, and other services needed to facilitate access to care, such as case management, translation, and transportation.
- Have a governing board, the majority of whose members are patients of the health center.
- Provide services to all in the service area regardless of ability to pay and offer a sliding fee schedule that adjusts according to family income.

There are 4 variables that are used to calculate the Index of Medical Underservice (IMU) of the U.S. Department of Health and Human Services, which helps designate the location of a community health center. These 4 variables include:

- percentage of the population with incomes below the poverty level

- percentage of the population age 65 or over
- infant mortality rate
- ratio of primary medical care physicians per 1,000 population

The population that the community health centers serve is mostly the low-income population. According to the 2003 Poverty Guidelines, 69% of health center patients lived at or below 100% of the federal poverty level while 90% lived at or below 200% of the federal poverty level. Patients who visit these health centers are less likely than the rest of the population to be insured and if insured, they are covered by public insurance programs like Medicaid. A study by Hing, Hooker, & Ashman (2011) using information from the 2006-2007 National Ambulatory Medical Care Survey (NAMCS) found that compared with office-based practices, CHCs were more likely to accept new patients, charity or no charge patients, Medicaid recipients and Medicare recipients. The numbers showed that while 45.3% of CHC patients were Medicaid/State Children's Health Insurance Program (SCHIP) recipients, only 15.6% of office-based practice patients were Medicaid/SCHIP recipients (Hing et al., 2011). In addition, it showed that CHCs serve a more diverse population, only 39.4% of CHC patients being non-Hispanic white compared to 70.9% of office-based patients (Hing et al., 2011). These results highlight how CHCs serve a more low-income population as well as a more diverse population and can help reduce racial and socioeconomic disparities in health care.

History of Adelante

Adelante Healthcare started in 1979 when the Maricopa County Organizing Project and Centro Adelante Campesino founded a part-time clinic staffed by volunteers to serve and meet the health care needs of local farm workers. Since the first Clinica Adelante opened in El

Mirage, Arizona with just three providers in 1980, it has now expanded to 7 community health center sites throughout Maricopa County and surrounding communities. In 2009, Clinica Adelante changed its name to what is now known as Adelante Healthcare in order to reach out to and serve a broader patient population. Adelante Healthcare offers affordable health care of the highest quality to the community each site serves. Of the 7 sites, Adelante in Surprise, Arizona was where I was placed for 5 weeks. Adelante Healthcare in Surprise, AZ is a new comprehensive center that opened in 2011 and offers a variety of services including OB/GYN, pediatrics, internal medicine, family medicine, dentistry, pharmacy, and Women, Infants, and Children (WIC). Located in Maricopa County, Surprise is 45 minutes from downtown Phoenix and has a population of approximately 115,000 people; it is currently the 10th largest city in Arizona (www.surpriseaz.gov). In 2010, the racial and ethnic composition of the population was 71.2% non-Hispanic whites, 5.1% black or African American, 0.7% Native American, 2.6% Asian, 0.2% Pacific Islander, 3.8% two or more races and 18.5% Hispanic or Latino (2010 National Census). Like the rest of the Adelante Healthcare sites, the Surprise site is located in a federally recognized medically underserved area and serves a diverse population.

Obesity Epidemic

Toward the end of this century, obesity has gained a vast amount of attention from various groups and the society as a whole. Together, with more knowledge of obesity in the medical point of view and the rise of obesity as the new global epidemic since the sharp decline in the mortality due to infectious diseases, it is relevant that obesity becomes the new center of attention. Obesity, now considered an epidemic in this country, has increased its significance in our society and therefore is presently receiving a significant amount of attention from medical professionals. According to the statistics made available by the National Health and Nutrition Examination Survey, the prevalence of overweight and obesity in the United States has increased dramatically over the past 3 decades, with more than one third of adults overweight and another one third obese. Over 78 million are obese and make up the 35.7% of the American adults who are a part of the obesity

epidemic. In addition, about 12.5 million children and adolescents are obese and those numbers calculate to 31.8% of youth in America being either overweight or obese. Of those, 16.9% of them are obese (Flegal, Carroll, Kit, & Ogden, 2010). This recent epidemic is the most widespread in the United States and this rate continues to rise and some minority and low socioeconomic status groups are disproportionately affected. Obesity increases morbidity and mortality and has become the second leading preventable cause of disease and death in the United States, second only to tobacco use. These numbers present a tremendous health care challenge in treatment and cost relating to the many adverse health conditions associated with excess body weight. As obesity has become a more prevalent problem in a majority of the developed countries, especially the United States, many medical professionals have tried to prevent and manage obesity as a widespread, global epidemic. Of course, there is still much to be done to control this deadly epidemic.

Definition of Obesity

According to the World Health Organization (WHO), obesity is a disease and is defined as the condition of excess body fat to the extent that health is impaired. Body mass index (BMI), calculated as weight in kilograms divided by height in meters squared, is what is now widely used to assess obesity in both children and adults; BMI is closely correlated with body fat and obesity-related health consequences such as type II diabetes and cardiovascular diseases. The WHO currently defines overweight as $\geq$25 kg/m^2 and obese as $\geq$30 kg/m^2 in adults. The Centers for Disease Control and Prevention defines overweight in children between the ages of 6-19 as those with BMIs between the 85th and 95th percentiles. The National Heart, Lung, and Blood Institute/North American Association for the Study of Obesity committee also recommends using waist circumference cutpoints of 40 inches for men and 35 inches for women to define central obesity in adults. Currently, there are no standardized ways to measure central obesity in children. Nonetheless, there has been an increasing number of studies recently showing waist circumference or central obesity as a better predictor of obesity-related diseases than overall obesity assessed by using BMI (Zhu, Heymsfield, & Toyoshima, 2005; Wang, Rimm, & Stampfer, 2005). Some benefits

of waist circumference include ease of measurement and better understanding by the general public.

Obesity in Arizona

Approximately 65% of Arizona adults age 18 and over are either overweight (40%) or obese (25%) (Arizona Department of Health Services). In has been shown that those with lower incomes, less education and Hispanics are more likely to be obese. For example, among those with incomes below 130%, 70% were either overweight or obese (ADHS). The recent economic trends show a higher percentage of Arizona residents living in poverty. According to the 2010 U.S. Census Bureau, American Community Survey, 17.4% of all people in Arizona lived in poverty (incomes less than $22,050 for a family of four) with 8.3% living in extreme poverty (incomes less than 50% of the federal poverty level) and 24% of Arizona children under the age of 18 lived in poverty. The percentage of overweight or obese children, especially from low-income families, in Arizona has been slowly increasing with 14.5% of low income children being obese in 2011. Among high school students in Arizona, 28% were either overweight (15%) or obese (13%) and boys were more likely to be either overweight or obese than were girls (CDC, Youth Online).

Obesity and Its Related Healthcare Costs Nationwide

In 2008, medical costs associated with obesity were estimated at $147 billion and the medical costs paid by third-party payers for people who are obese were $1429 higher than those of normal weight (Finkelstein, Trogdon, Cohen, & Dietz, 2009). Obese men and women were more likely to consult their primary care physicians than those who were not overweight with complaints of endocrine system, cardiovascular system, the musculoskeletal system, the gastro-intestinal system and skin problems (van Dijk, Otters, & Schuit, 2006). Furthermore, these obese patients were more likely to receive drugs for their problems illustrating that obesity increases the workload of primary care physicians and the use of prescribed medication, increasing the use of health care and related costs (van Dijk et al., 2006). In addition, Cai, Lubitz, Flegal, & Pamuk (2010) found that chronic obesity in middle age increases lifetime Medicare costs relative to those who remained normal weight. As the survivals of those who are obese improve, it is predicted that Medicare costs

will rise substantially in the future to meet the health care needs of today's obese middle-aged population (Cai et al., 2010). Similarly, a recent study done by Johnson & Johnson Family of Companies (2011) to quantify the impact of weight gain or weight loss on health care costs found that employees who developed high risk obesity experienced 9.9% points higher annual cost increases than those who remained at lower risk. This study shows that being obese costs more money and therefore, preventing weight gain in employees is likely to result in cost savings for employers. In order to prevent a further rise in health care costs related to obesity, it is important for not only employers but also health care providers both in the private and public sector to advocate for losing weight and maintaining a healthy weight.

Obesity and Its Related Healthcare Costs in Arizona

According to the report produced by the Arizona Department of Health Services, Bureau of Nutrition and Physical Activity, in 2010, 1,828 Arizona residents were discharged from the hospital with morbid obesity as their principle diagnosis and therefore was the reason for their hospitalization. During their hospitalization or later, many of these patients received gastric bypasses or other gastric restrictive procedures (i.e. gastric bands). There were another 31,228 hospitalizations in Arizona where morbid obesity was listed as a complication or co-morbidity. In addition, Arizona residents made 6,188 visits to the hospital emergency rooms for morbid obesity-related problems such as falls, chest pain, and back pain. Billed charges for all of these morbid obesity-related inpatient and outpatient hospital activities in the state of Arizona totaled nearly $2 billion in 2010 (Arizona Department of Health Services).

Benefits of Healthy Eating and Exercise

Besides the economic benefits, there are also many health benefits to losing weight. Healthy eating is one of the best things a person can do to prevent and control many health problems such as heart disease, high blood pressure, type 2 diabetes and some types of cancer (i.e. mouth and stomach). Weight loss can even reverse type II diabetes and solve sleeping problems such as sleep apnea. Life style changes that include healthier diets, regular physical activity and

moderate weight loss of 5-10% have shown significant improvements in cardiovascular disease risk factors at 1 year, with greater benefits with larger weight losses (Wing, Lang, Wadden, Safford, Knowler, Bertoni., Hill, Brancati, Peters, & Wagenknecht, 2011). Improvements in cardiovascular disease risk factors include improvements in glycemia, blood pressure, triglycerides and HDL cholesterol.

Intervention

Because obesity in the United States is an epidemic with the number of Americans affected having dramatically increased over the last several decades, the importance of patient education on eating healthy and exercising routinely cannot be underestimated. Located in medically underserved areas, community health centers receive more patients who are low-income, minorities and on government-funded public insurance programs. As stated previously, obesity does not seem to affect everyone equally, favoring those who are of certain culture and socioeconomic status. From my personal experience at Adelante Healthcare in Surprise and after speaking to some of the providers who work for Adelante, it appears that a majority of the patients who visit the Adelante sites are Hispanic and of lower income, mostly on Arizona state's Medicaid program called AHCCCS. Therefore, for my independent project, I made an educational handout on healthy eating and exercise for this specific patient population that Adelante serves, including information on topics such as shopping healthy on a budget, avoiding common fatty toppings such as sour cream, and switching to whole-wheat tortilla. In addition, I included a section on reading nutritional labels as well as a section on daily exercise recommendations. The goal of my project is to create an effective patient education material that is easy to read and understand and that will promote healthy lifestyle choices and exercise habits that not only the patient but the entire family can adopt (see Appendix).

Conclusion

Pediatricians at the Adelante Healthcare in Surprise, Arizona will give to their patients and families the educational handout I have created on healthy eating and exercise in order to promote healthier life style choices. In the future, it would be great to expand my project and organize group

sessions with the overweight and obese children and adolescent patients at Adelante in Surprise to go over the handout and to follow up on whether or not any life style changes have been made. Future GE scholars can organize and facilitate such group sessions and help create a support network for overweight and obese patients who are trying to lose weight and stay healthy. It might also be a good idea to have future scholars create additional handouts on related topics such as community resources for engaging in physical activities and nutritional recipes on a budget. There is still much that can be done to help control this serious and costly obesity epidemic nationwide and it might be an excellent project topic for future GE scholars on which to expand.

Appendix

ADELANTE HEALTHCARE

EAT HEALTHY AND EXERCISE

SURPRISE, ARIZONA

Benefits of Eating Healthy

This is what your plate should look like.

Healthy eating is one of the best things you can do to prevent and control many health problems such as: heart disease, high blood pressure, type 2 diabetes and even cancer. Life style changes that include healthier diets, regular physical activity and weight loss of 7-10% have shown phenomenal health benefits that can be more effective than medication. You can even reverse diabetes this way! So why not eat healthy and exercise?

DID YOU KNOW??

90% of diabetes, 80% of heart disease and 60% of cancers are preventable with healthier lifestyles and normal body weights

Make Changes

Drinks: cut out sugary drinks (soda, diet soda, juice, sports drinks, energy drinks), change to skim milk, drink plenty of water (8 glasses a day)

Bread and grains: choose whole-wheat bread, oatmeal, brown rice, whole-wheat tortilla

Cereal: buy ones with less sugar but with more fiber and whole grains

Meat and protein: eat lean meats such as white meat chicken, turkey, white pork or fish; limit the consumption of red meat (like carne asada)

Snacks: eat healthy snacks such as fruits, vegetables, and nuts. Do not eat empty calories (foods that are high in calories but low in nutrition), like Hot Cheetos or Takis

Microwave meals: stay away from prepackaged frozen microwave meals

Choosemyplate.gov Daily Recommendations

	Children	Girls		Boys	
	4-8 years	9-13 years	14-18 years	9-13 years	14-18 years
Fruits	1-1.5 cups	1.5 cups	1.5 cups	1.5 cups	2 cups
Vegetables	1.5 cups	2 cups	2.5 cups	2.5 cups	3 cups
Grains	5 ounces	5 ounces	6 ounces	6 ounces	8 ounces
Proteins	4 ounces	5 ounces	5 ounces	5 ounces	6.5 ounces
Dairy	2.5 cups	3 cups	3 cups	3 cups	3 cups
Oils	4 teaspoons	5 teaspoons	5 teaspoons	5 teaspoons	6 teaspoons

EAT HEALTHY AND EXERCISE

Adelante Healthcare

Exercise

Exercise for 60 minutes a day, 3 times a week

Do enough exercise to break a sweat

Tips: walk around the neighborhood, jump rope, ride a bicycle, set up a home gym (use household items for weights), climb stairs (if at home)

Shopping Healthy on a Budget

Fruits and Vegetables:

Buy frozen or canned fruits and vegetables—canned vegetables that have no added salt ("low sodium" or "no salt added" on the label) and fruit that is canned in 100% fruit juice

Buy fruits and vegetables that are in season—Farmer's markets always carry what is in season

Avoid pre-cut, pre-washed, ready-to-eat foods (i.e. pre-bagged salad mixes are usually more expensive and spoil faster)

Meats:

Look for specials at the meat counter. Buy meat on sale in large bulk to save money. Freeze portions you might not use right away to prevent spoiling

Reading Nutritional Facts

Sample label for Macaroni & Cheese

① Start Here →

Nutrition Facts
Serving Size 1 cup (228g)
Servings Per Container 2

② Check Calories

Amount Per Serving
Calories 250 Calories from Fat 110

	% Daily Value*
③ Limit these Nutrients	
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
④ Get Enough of these Nutrients	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

(source fda.gov)

⑤ Quick Guide to % DV

- 5% or less is Low
- 20% or more is High

1. **Pay attention to the serving size.** The nutrient numbers are for one serving. Multiply all the numbers by the number of servings you eat.
2. Number of servings determines the number of calories. **Eating too many calories per day is linked to overweight and obesity.**
3. **Keep these numbers as low as possible** to reduce your risk of chronic diseases.
4. Eat foods with more of these.
5. % Daily Value: **Use these numbers to compare similar foods.** Make sure the serving sizes are similar and choose the one with lower %DV numbers under the "Limit these Nutrients"section.

Alison Kang, Last Updated Aug 2012

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