

I. Introduction



Through the financial support given to me by the Princeton University Class of 1978 Foundation, I was able to have a fantastic project to work on this summer following my graduation. It was a nutritional counseling project at the Monmouth Family Health Center's Women's Wellness Center. Over the course of the project I worked closely with a diverse team of health service professionals: an obstetrician/ gynecologist, a nutritional counselor, a social worker, and three other summer interns. In this report, I will tell you of my summer activities.

II. Monmouth Family Health Center: In Brief

Monmouth Family Health Center (MFHC) is a Federally Qualified Health Center (FQHC) whose mission is to provide high quality, comprehensive, affordable, culturally sensitive and linguistically appropriate primary and preventative health care to economically disadvantaged residents in the city of Long Branch and neighboring communities in Monmouth County, NJ. The patients served are disproportionately poor, young, uninsured and members of minority groups. More than 35% of the city's population of over 31,000 lives at or below 200% of the federal poverty level, with many federally designated as low income medically underserved populations. Over a third of this population is under the age of 18. More than 34% of the city's population is Hispanic and nearly 19% is African American. Spanish is spoken at home by 19% of the city's population over the age of five years.

Though there are 40 primary health care providers located in this community, most do not accept Medicaid or offer charity care. To meet the health needs of these diverse patients, the center's dedicated staff of doctors, nurses and other professionals provide a wide range of services in pediatrics, adolescent and adult medicine, podiatry, HIV care, nutrition counseling, health education, social services, pre-natal and gynecological care and dental services.

III. Project Activities

The topic of obesity has become an ongoing health concern within the most recent years. In a study from 2007-2008, researchers found that 34 percent of women 20 years and older were obese and 34 percent of women 20 years and older who were not obese were categorized as overweight. These statistics are becoming a great concern for health care providers in the field of obstetrics. With a current statistic of one of five women already qualifying as obese at the beginning of pregnancy, the need to decrease these numbers has become a more urgent concern for health care providers.^[1,2,3] So, this is also a concern for the health professionals at MFHC Women's Wellness Center. From their observations based on their patient population, it was inferred that many within the community exhibit high degrees of obesity and nutritional deficiency during pregnancy.



The grant from the Class of 1978 allowed me to assist in the creation of a nutritional program for pregnant patients at MFHC Women's Wellness Center. As defined in my application, the end goal of this program would be to establish continuing lifestyle changes within the community, especially as it relates to decreasing obesity rates and nutritional deficiencies. In this report, I will provide a brief summary of our accomplishments.

A. Background: Assessing the prevalence and effects of obesity in pregnant patients

Maternal obesity increases the risk of problems for both mother and child occurring throughout the pregnancy and in labor. At MFHC we conducted a study where we examined a cohort of patients and correlated the body mass index (BMI) of these patients with ethnicity and age. The age, ethnicities, height, initial pregnancy weight, BMI, trimester weight, and other delivery-related information were collected from the medical records. Other qualitative information related to the impact and consequences of obesity on conception, pregnancy, labor and delivery was obtained from interviewing pregnant patients.

B. Developing a nutritional counseling program for patients

The findings from our study were very helpful in shaping our nutritional counseling program. The data allowed us to design more personalized and targeted counseling sessions and care for the patients of the center. Each time a patient came to the Women's Wellness Center, they followed a schedule wherein each stop would focus on different needs that the patient had. I was able to shadow the professional at each of these stops, which was an excellent way for me to both observe the interaction between the professional and the patient, and for me to interact with them too! Generally, the routine was as follows:

1. **Nutritional Counselor:** Go through the nutritional habits of the patient. Discuss foods to avoid, medications that can alleviate symptoms (such as nausea and swollen feet) and those that can complicate others. A specific physical routine that the patient could follow was created based on the weight gain/loss/maintenance of the patient. It is at this stage, we would take the height, weight, and calculate BMI of the patients.
2. **Social Worker:** Go through the economic, social issues that each patient (and family, if it applied) was experiencing. The social worker was responsible for connecting each patient with the appropriate services for their needs.
3. **Obstetrician/Gynecologist:** Clinical examination and check up. Physician answers any questions that the patient may have regarding the pregnancy.



Social Worker (left) and Nutritional Counselor (right)

Along with the other summer interns, we prepared educational packets that were to be given to the patients during their stops. The "Nutrition during Pregnancy" brochure that we created was given during the stop with the nutritional counselor. It is written in a simple and plain style in order for it to be as clear to the patients as possible. It highlights the

importance of taking care of oneself during pregnancy and underlines the risks if one does not. It is aimed at educating the patient on the importance of proper nutrition and weight gain during pregnancy. All materials were created in English and Spanish.

To continue the study, we will continue to collect the height, weight, and BMI of patients during their pregnancy as well as take their end of term information regarding delivery type (cesarean or vaginal), delivery date and labor patterns.

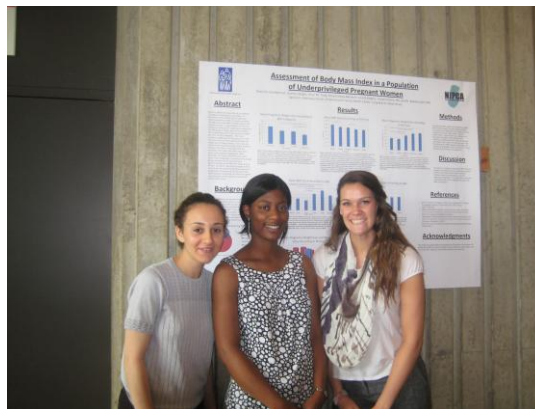
When we collect enough information, then we should be able to bring the results back to the community through a health fair or educational program similar to the one I described in my proposal.

IV. Other Activities

In addition to the specific activities described above and my other duties as post-graduate intern with MFHC overall, I was also able to participate in a couple of other activities related to this nutritional counseling program.

Following the schedule that I described above, some of the patients would request for clothing and supplies for their babies and young children. To this end, I was able to aid the nutritional counselor or social worker in obtaining these materials for the women.

Finally, along with the other summer we attended a poster presentation where a number of summer service projects were presented at a program at UMDNJ.



Our poster presentation at UMDNJ

IV. Last Remarks

I am very thankful to the Class of 1978 Foundation for selecting me as one of their grant recipients for this past summer. My experience this summer has been more than a privilege and I look forward to a fulfilling year with MFHC. Thank you again.

References

1. Kim SY, Dietz PM, England L, Morrow B, Callaghan WM. Trends in Pre-pregnancy Obesity in Nine States, 1993–2003. *Obesity* 2007;15:986–993.
2. Office of Information Services. *Obesity and Overweight: Data are for the U.S. Centers for Disease Control and Prevention*. June 18, 2010.
<http://www.cdc.gov/nchs/fastats/overwt.htm>
3. Department of Health and Human Services. *Maternal and Infant Health Research: Pregnancy Complications. Centers for Disease Control and Prevention*. December 14, 2010.
<http://www.cdc.gov/reproductivehealth/maternalinfanthealth/PregComplications.htm>

Nutrition during pregnancy is extremely important for you and your baby!

The growth and development of your child depends on your daily diet choices. With a little effort you can do more to help keep your baby healthy throughout your pregnancy and benefit your own health.

Your Body Mass Index (BMI) is dependent upon your height and weight. This measure can help you to set the proper goals for yourself regarding pregnancy and nutrition. This measure can also help define the risks associated with your pregnancy so that you can make better choices for you and your baby.



www.nlm.nih.gov

Nutrition in Pregnancy

The following chart explains the amount of weight a pregnant woman should gain throughout her pregnancy with one child.

| Pre-pregnancy weight | Recommended weight gain |
|-------------------------------------|-------------------------|
| Underweight (BMI less than 18.5) | 28 to 40 pounds |
| Normal weight (BMI 18.5 to 24.9) | 25 to 35 pounds |
| Overweight (BMI 25 to 29.9) | 15 to 25 pounds |
| Obese (BMI 30 or more) | 11 to 20 pounds |

* It is important to note that the majority of the weight gained will be during the last three months of pregnancy (third trimester) with a weight gain of about **one pound per week**.

Meals

It is recommended to eat about 3 meals per day. Any snacks eaten in between meals should be low in calories and nutritious.

Examples of these snacks are:

Single servings of fruits, vegetables, yogurt, and cheese



<http://www.ars.usda.gov>

Foods to avoid

- Sugary snacks (candies, cookies, cakes, etc.)
- Sodas
- Salty processed foods (potato chips, cold cuts)
- Raw/undercooked meats or fish
- Caffeinated beverages
- Pasteurized milk products (brie, feta, camembert, and Mexican variety cheeses)
- High fat foods

*It is important to **not eat fish more than once a week** to avoid consuming the high levels of mercury contained in fish products that can damage your baby's health.

Stay Active!

A healthy pregnancy should include some type of activity whether it's taking a walk or just taking part in everyday household activities.

This is important in maintaining low blood pressure and normal blood sugar, avoid swelling, and keeping a healthy weight.

Safety!

- Maintain your pre-pregnancy activity level
- Talk to your doctor before taking part in any type of exercise while pregnant.
- Avoid falling risks, dehydration, and over-exertion
- Drink plenty of water

Complications and Risks

Being underweight or obese increases your risk of health problems during and after your pregnancy for both you and your baby.

If you are *underweight* you have increased risk of:

- Low birth weight baby
- Pre-term delivery
- Having an under-nourished baby with health problems
- Early miscarriage

If you are *overweight* or *obese* you have increased risk of:

- Pregnancy diabetes (gestational diabetes) – uncontrolled blood sugar levels during pregnancy.
- High blood pressure
- High birth weight baby
- Pre-eclampsia/eclampsia – severe high blood pressure and swelling
- Having a baby with birth defects and/or needing hospitalization
- Higher probability of caesarean delivery
- Pre-term delivery
- Complications in labor



What you can do!

Follow nutrition guidelines, continue regular checkups, and speak with your doctor or nutritionist about any concerns or questions.

You can do a lot throughout your pregnancy to keep you and your baby healthy!

Resources

Here are some extra resources to help you learn more.

www.Mayoclinic.com/health/pregnancy-weight-gain/PR0011

www.marchofdimes.com/pregnancy

www.cdc.gov/reproductivehealth/maternalinfanthealth

| Height (inches) | Body Mass Index (BMI) number | | | |
|--------------------|------------------------------|-----------------------|------------------|-----------------------------|
| | 19 ~ 24 Normal | 25 ~ 29 Overweight | 30 ~ 39 Obese | 40 ~ 54 Extreme Obese |
| Weight (pounds) | | | | |
| 58 | 91 ~ 115 lbs | 119 ~ 138 lbs | 143 ~ 186 lbs | 191 ~ 258 lbs |
| 59 | 94 ~ 119 lbs | 124 ~ 143 lbs | 148 ~ 193 lbs | 198 ~ 267 lbs |
| 60 | 97 ~ 123 lbs | 128 ~ 148 lbs | 153 ~ 199 lbs | 204 ~ 276 lbs |
| 61 | 100 ~ 127 lbs | 132 ~ 153 lbs | 158 ~ 206 lbs | 211 ~ 285 lbs |
| 62 | 104 ~ 131 lbs | 136 ~ 158 lbs | 164 ~ 213 lbs | 218 ~ 295 lbs |
| 63 | 107 ~ 135 lbs | 141 ~ 163 lbs | 169 ~ 220 lbs | 225 ~ 304 lbs |
| 64 | 110 ~ 140 lbs | 145 ~ 169 lbs | 174 ~ 227 lbs | 232 ~ 314 lbs |
| 65 | 114 ~ 144 lbs | 150 ~ 174 lbs | 180 ~ 234 lbs | 240 ~ 324 lbs |
| 66 | 118 ~ 148 lbs | 155 ~ 179 lbs | 186 ~ 241 lbs | 247 ~ 334 lbs |
| 67 | 121 ~ 153 lbs | 159 ~ 185 lbs | 191 ~ 249 lbs | 255 ~ 344 lbs |
| 68 | 125 ~ 158 lbs | 164 ~ 190 lbs | 197 ~ 256 lbs | 262 ~ 354 lbs |
| 69 | 128 ~ 162 lbs | 169 ~ 196 lbs | 203 ~ 263 lbs | 270 ~ 365 lbs |
| 70 | 132 ~ 167 lbs | 174 ~ 202 lbs | 209 ~ 271 lbs | 278 ~ 376 lbs |
| 71 | 136 ~ 172 lbs | 179 ~ 208 lbs | 215 ~ 279 lbs | 286 ~ 386 lbs |
| 72 | 140 ~ 177 lbs | 184 ~ 213 lbs | 221 ~ 287 lbs | 294 ~ 397 lbs |
| 73 | 144 ~ 182 lbs | 189 ~ 219 lbs | 227 ~ 295 lbs | 302 ~ 408 lbs |
| 74 | 148 ~ 188 lbs | 194 ~ 225 lbs | 233 ~ 303 lbs | 311 ~ 420 lbs |
| 75 | 152 ~ 192 lbs | 200 ~ 232 lbs | 240 ~ 311 lbs | 319 ~ 431 lbs |
| 76 | 156 ~ 197 lbs | 205 ~ 238 lbs | 246 ~ 320 lbs | 328 ~ 443 lbs |

Source: Adapted from Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report.

Nutrition during Pregnancy



Your BMI is: _____



Monmouth Family Health Center Inc