The study examined the relationship between dietary issues and food borne disease among pregnant women in Uyo Local Government Area, Akwa Ibom State. The population of the study consisted of registered pregnant women in Uyo Municipality, numbering 996 as at the time of the study (July/August, 2009). The Stratified Random Sampling Technique was used in selecting a sample of 400 respondents from health institutions in Uyo Municipality. Two null hypotheses were formulated and tested at 0.05 alpha level, using the Pearson Production Moment Correlation Co-efficient Analysis. Data collection was done using a structured questionnaire tagged: Pregnancy and Food-Borne Diseases Questionnaire (PFDQ). The analysis retained hypothesis one while the second hypothesis was rejected. It was therefore concluded that the prevalence of food borne diseases among pregnant women in Uyo Local Government Area was not as a result of the women’s poor awareness on dietary requirements during pregnancy; and that the quality of diets of most pregnant women in the Local Government Area is the major cause of food-borne diseases. Based on this, it was recommended, among other things, that pregnant women in Uyo Local Government Area should pay more attention to their diets for their health and that of the unborn babies.

Introduction

Not only physical disorders been linked with poor nutrition before and during pregnancy, but neurological disorders and handicaps are a risk that is run by mothers, who are malnourished, a condition which can also lead to the child becoming more susceptible to later degeneration diseases. As observed by Dietrich (1990), family formation today is undermined by an emphasis on children as property desired to be owned for the satisfaction of want. The society value of children as products desired to be owned by parents has much consequences on the status of women and their health care during care during pregnancy and childbirth. In Nigeria where birth control is given less attention, and large family size a way of life, it becomes increasingly difficult for pregnant women to receive adequate care. Poor diets therefore tend to be a major factor contributing to pregnancy-related ailments among the women.

Pregnancy is not a disease, but a time of joy and great anticipation for the family. However, the happiness and hope is oftentimes halted by the diagnosis of serious food-borne diseases accompanying some pregnancies. Dietary issues during pregnancy deserve special considerations as food-borne diseases constitute serious health risk for pregnant women and their unborn babies. Dietary advice relating to pregnancy-related nutrition has been observed as one of the major factors in determining the well-being of the pregnant woman and the child conceived (Barasi, 2003). Pregnant women need to be well advised and guided on dietary issues. Studies have revealed that proper nutrition is important before, during and after pregnancy for the health of both the mother and the unborn baby (Zimmermann, 2007). This underscores the need for this study on dietary issues and prevalence of food-borne diseases among pregnant women in Uyo Local Government Area of Akwa Ibom State.

Diets and Pregnancy

Good safety practices are important during pregnancy. Research has shown that good nutrition during pregnancy keeps a developing baby and its mother health (Milman, Byg, Bergbolt, Eriksen and Hvas, 2006). As observed by Barker (2002) pregnant women’s nutrition has an effect on the pregnancy, on the fetal development and also on the health of the mother and child. During pregnancy, the food the woman eats is the main source of nutrients for the mother and the child.
According to the American College of Obstetricians and Gynecologists, a pregnant woman's nutrition directly influences the course of the pregnancy and normal fetal development and also the long-term health of the mother and child. In the first half of pregnancy, nutrition requirements mainly concern quality, while in the second half, quantity is also an issue, to ensure fetal growth.

Glinoer (2007) indicated the necessity for proper nutritional habits to be established at the start of pregnancy, and if possible even before conception. The pregnant mother’s body is subject to greater demands to ensure proper fetal development as well as the growth, health and functioning of the uterus, placenta and amniotic fluid. The Swiss Association for Nutrition recommends a daily increase of 150 calories at the start of pregnancy, which will eventually reach an extra 250 calories a day by the end of pregnancy.

During the months of pregnancy, every system of a woman’s body changes. The blood and circulatory system expands and works for two. The basis of this expansion is nutritional. Studies have shown that iron is a primary need during pregnancy. Baby’s muscles, blood and other tissues contain iron, protein and scores of minerals, vitamins and other nutrients that are supplied through the mother’s bloodstream by way of digestion. Iron is a vital part of the hemoglobin molecule, the building block of red blood cells that enables the blood to carry oxygen to body tissues. The diet of the pregnant women must be such that can supply the required amount of iron. It has been estimated that 1,000 mg of iron are required for the demands of normal pregnancy and birth (McLean, 1998).

The pregnant woman needs regular feedings of protein and all the other essential elements of a balanced diet, including grains, fruits, vegetables and healthy liquids. The greatest nutritional need per day in pregnancy occurs from 20 to 30 weeks. After that, though baby’s growth takes off, the increase in material tissues is essentially complete and the pressure of the growing baby reduces the capacity of the stomach. A pregnant woman who eats will arrives at delivery with a healthy baby, an expanded blood volume and a substantial store of iron in her bone marrow. Good nutrition is equally important after birth, which is often the period between pregnancies. A good dietary approach for a pregnant woman is to eat to satisfy her appetite and continue to monitor her weight. A normal weight gain over the course of a pregnancy has been put at 10-13kg for women who had a healthy preconception weight.

Although a varied diet generally provides the body with enough of each vitamin and mineral each day, the pregnant women may need supplements of particular vitamins or minerals. It is important to chooses a wide variety of foods to ensure that the nutritional needs of both mother and baby are met.
Table 1

Recommended Nutrients During Pregnancy

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Recommendation (Extra=Above RDA)</th>
<th>Maximum / Total amount recommended per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>Increase by 200 kcal (840KJ) per day in last trimester only</td>
<td>RDA</td>
</tr>
<tr>
<td>Proteins</td>
<td>Extra 6 per day.</td>
<td>51g per day</td>
</tr>
<tr>
<td>Thiamin</td>
<td>Increase in line with energy; increase by 0.1mg per day.</td>
<td>0.9 mg per day</td>
</tr>
<tr>
<td>Riboflavin</td>
<td>Needed for tissue growth; extra 0.3mg per day.</td>
<td>1.4 mg per day</td>
</tr>
<tr>
<td>Niacin</td>
<td>Regular supplementation/diet of substance. No increase required.</td>
<td>RDA</td>
</tr>
<tr>
<td>Folate</td>
<td>Maintain plasma levels; extra 100 µg per day.</td>
<td>300 µg per day</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>Replenish drained maternal stores; extra 120 mg per day.</td>
<td>50 mg per day</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>Replenish plasma levels of vitamin 10 µg per day.</td>
<td>RDA</td>
</tr>
<tr>
<td>Calcium</td>
<td>Needs no increase.</td>
<td>RDA</td>
</tr>
<tr>
<td>Iron</td>
<td>Extra 3mg per day needed.</td>
<td>RDA</td>
</tr>
<tr>
<td>Magnesium, zinc</td>
<td>Normal supplementation or consumption.</td>
<td>RDA</td>
</tr>
<tr>
<td>and copper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iodine</td>
<td>Extra 100 ug per day.</td>
<td>250 µg per day</td>
</tr>
</tbody>
</table>

According to Perez-Lopez (200) pregnant women should ensure adequate intake of folic acid (folate); iron, iodine, vitamin A, multivitamin supplements etc.

Eating Contaminated Foods

Listeria infection, or listeriosis, is an illness usually caused by eating food contaminated with bacteria known as Listeria moncytogenes. Healthy people may experience no ill-effects from listeria infection at all, but the risks are substantial for pregnant women. The greatest danger is to the unborn baby, with increased risk of miscarriage, stillbirth or premature labour.

Some food are more prone to contamination with listeria than others. A pregnant woman should exclude these foods from her diet. Some of such foods are:

- Soft cheeses – these are safe if served cooked and hot
- Precooked or pre-prepared cold foods that will not be reheated – for example, pre-prepared salads.
- Raw seafood such as oysters or smoked seafood such as salmon (canned varieties are safe).
- Unpasteurised foods
- Soft-serve ice-cream

The organism that causes literia infection is destroyed by heat, so properly cooked foods do not pose any risk. Salmonella which causes food poisoning can trigger miscarriage. The most likely sources of salmonella are raw eggs and undercooked meat and poultry. Pregnant women should avoid these. Good food hygiene is the best way to reduce the risk of salmonella and listeria infections.

Purpose of the Study

The study examined the relationship between dietary issues and food borne diseases among pregnant women in Uyo Local Government Area of Akwa Ibom State. Specifically, the study sought to:

1. Examine the level of awareness on dietary requirements during pregnancy among women in Uyo Local Government Area.
2. Examine the relationship between the quality of diets and food borne diseases among pregnant women in Uyo Local Government.

**Hypotheses**

The following null hypotheses were formulated to direct the study.

1. There is no significant relationship between the level of awareness on dietary requirements during pregnancy and prevalence of food borne diseases among pregnant women in Uyo Local Government Area.

2. There is no significant relationship between the quality of diets and prevalence of food borne diseases among pregnant women in Uyo Local Government.

**Research Method**

The survey research design was adopted for this study. This design enabled the researcher obtain and analyze relevant information pertaining to dietary issues and food borne diseases among pregnant women in Uyo Local Government Local Government Area. The population for this study consisted of registered pregnant women in Uyo Municipality, numbering about 996 as at the time of this study - July/August, 2009 (Hospitals Management Board, 2008). The population was reached through the major health institutions in the Local Government Area (St. Luke’ Hospital, Anua; UUTH, and Staff Clinic, Wellington Bassey End, Uyo). The sample of the study was 400 pregnant women. This represented 40% of the study population. The stratified sampling technique was used in drawing out the sample from the three health institutions. Out of the 400 respondents, 156 were sample from St. Luke’s Hospital, Anua; 148 from University of Uyo Teaching Hospital and 96 from Staff Clinic, Wellington Bassey End, Uyo. Data collection was done using a structured questionnaire tagged: Pregnancy and Food-born Diseases (PFD). The questionnaire, which was patterned after the Likert’s four-scale rating, solicited information on personal data of the respondents, dietary issues, health status and ailments experienced during pregnancies. The instrument was made up of three sections with a total of 21 items.

**Data Analysis and Results**

**Hypothesis I**

There is no significant relationship between the level of awareness dietary requirements during pregnancy and the prevalence of food-borne diseases among pregnant women in Uyo Local Government Area.

In order to establish the relationship between the level of awareness on dietary requirements during pregnancy and the prevalence of food-borne diseases among pregnant women in Uyo Local Government, the Pearson Product Moment Correlation analysis(r) was performed on scores of items measuring the level of awareness on dietary requirement and prevalence of food born diseases among pregnant women in the Local Government.

**Table 2**

<table>
<thead>
<tr>
<th>Scores on level of awareness</th>
<th>Pearson Correlation Sig. (2-tailed)</th>
<th>Scores on prevalence of food borne diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scores on level of awareness</td>
<td>Pearson Correlation Sig. (2-tailed)</td>
<td>N</td>
</tr>
<tr>
<td>Scores on prevalence of food-borne disease</td>
<td>Pearson Correlation Sig. (2-tailed)</td>
<td>N</td>
</tr>
</tbody>
</table>

Degree of freedom = 398; alpha = 0.05; critical r = 0.098
The calculated r-value of .069 was less than the critical r-value of 0.098. The null hypothesis was consequently retained. This implies that there is no significant relationship between the level of awareness on dietary requirements and the prevalence of food-borne diseases among pregnant women in Uyo local Government Area.

**Hypothesis 2**

There is no significant relationship between the quality of diets and the prevalence of food-borne diseases among pregnant women in Uyo Local Government.

In order to establish the relationship between the quality of diets and the prevalence of food borne diseases among pregnant women in Uyo Local Government, the Pearson Product Moment Correlation analysis(r) was performed on among pregnant women in the Local Government.

| Table 4  |
|-----------------|-----------------|-----------------|
| **Pearson Product Moment Correlation Analysis of the Relationship Between Quality of Diets and the Prevalence of Food-Borne Diseases among Pregnant Women** |

<table>
<thead>
<tr>
<th>Scores on quality of diets</th>
<th>Pearson Correlation Sig. (2-tailed)</th>
<th>N</th>
<th>Scores of prevalence of food-borne diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scores on quality of diets</td>
<td>Pearson Correlation Sig. (2-tailed)</td>
<td>N</td>
<td>1.000</td>
</tr>
<tr>
<td>Scores on prevalence of food-borne diseases</td>
<td>Pearson Correlation Sig. (2-tailed)</td>
<td>N</td>
<td>0.071</td>
</tr>
</tbody>
</table>

Degree of freedom = 398; alpha = 0.05; critical r = 0.098

The calculated r-value of 0.71 was greater than the critical r-value of 0.098. This led to the rejection of the null hypothesis. This implies that there is a significant relationship between the quality of diets and prevalence of food-borne diseases among pregnant women in the Local Government.

**Discussion of Findings**

Data analysis in hypothesis one revealed no significant relationship between the level of awareness on dietary requirements during pregnancy and the prevalence of food-borne diseases among pregnant women in Uyo Local Government Area of Akwa Ibom State. The calculated r-value was less than the critical r. The implication is that the prevalence of food borne diseases among pregnant women in Uyo Local Government Area is not as a result of their poor level of awareness on dietary requirements during pregnancy. Being the capital city of Akwa Ibom State, most of the women are literate and able to implement nutritional advice given to them while attending pregnancy clinics. Some of the women are so well informed that they could even advice the less informed on this issue.

Food-borne diseases among pregnancy women in the Local Government could be as a result of other factors, such as nutritional habit or quality of diets. As indicated by Glinoer (2007) the necessity for a proper nutritional habit to be established at the start of pregnancy cannot be ignored. It is true that pregnant women need to be well advised and guided on dietary issues (Barasi, 2003). However, the study indicated this not to be the main cause of pregnancy-related diseases among the women of this Local Government Area.

In testing hypothesis two a significant relationship was revealed between the quality of diets and prevalence of food-borne diseases among pregnant women in Uyo Local Government Area. The calculated r-value was greater than the critical r. The led to the rejection of the null hypothesis. It implied that the prevalence of food born diseases among pregnant women in Uyo could be attributed...
to the quality of diets taken by the pregnant women. This finding agrees with the work of many scholars.

Barker (2002) observed that a pregnant woman’s nutrition has an effect on the pregnancy, the fetal development and on the health of the mother and child, because the foods the woman eats are the main sources of nutrients for the mother and the child. A pregnant woman’s nutrition directly influences the course of the pregnancy, normal fetal development and also the long-term health of the mother and child (ACOG, 2007).

Although the women may be aware of dietary requirements during pregnancy, their income level determines their ability to acquire these foods. This is bound to have effect on the required level of nutrients for a healthy pregnancy. Most families in the Local Government may not be able to afford the required foods for a healthy living due to poverty and high cost of living experienced in the cities. This equally affects the pregnant women.

**Conclusion**

Based on the findings of the study, the following conclusions are drawn.

1. The prevalence of food-borne diseases among pregnant women in Uyo Local Government Area is not as a result of the women’s poor awareness dietary requirements during pregnancy.
2. The quality of diets of most pregnant women in Uyo Local Government Area does not enhance pregnancy. It is the major cause of food-borne diseases among pregnant women in the Local Government Area.

**Recommendations**

On the basis of the conclusions draw, it is recommended that:

1. pregnant women in Uyo Local Government Area should pay more attention to their diets for their health and that of the unborn babies.
2. food supplements should be provided free for every pregnant woman.
3. free medical services should be provided to all pregnant woman in the State.
4. awareness campaigns should be organized for the women seeking nutritional advice during pregnancy.
5. More should be done to create awareness on the need for the women to embrace family planning as a way of right-sizing their families for enhanced wellbeing.

**References**


Dietary Issues And Food-Borne Diseases Among Pregnant Women In Uyo Local Government Area Of Akwa Ibom State


