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The dietary management of women during prenatal period from selected hospitals in Anyigba, Kogi State of Nigeria

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ABSTRACT: This study was aimed at determining the dietary management of women during prenatal period. A total of 120 respondents were randomly selected from Diagnostic Hospital, Grimad Hospital and Maria Gorretti hospital, using 40 respondents in each of the hospitals respectively. Questionnaire and oral interview were used for collection of data. Frequency and percentile method were used to calculate the percentages of respondents that obtained adequate dietary management and those that did not during prenatal period, and least square regression were used to measure the relationship between their health status, weight, age educational status, eating habit, income, family size, time meal and marital status frequency. The results showed that, 21.25% of the respondents had proper dietary pattern (adequate dietary management) while 41.25% of the respondents underfed and 37.5% overfed – (improper dietary management). At 1% levels of significance, weight, educational status, family size, and marital status respectively were significant to health status. while age, eating habit, income, weight, education and marital status were positively related to their health status. Family size and time meal time were negatively related to their health status. This means that, these percentages (41.25% and 37.5%) of respondents with improper dietary management stand the risk of becoming under nourished or over nourished that may result from poor dietary management which could be caused by any or all of these factors(weight, age, educational status, family size, marital status, improper eating habit, frequency of meal and income).Thus, appropriate nutritional intervention is required, especially in these areas mentioned above to redress this situation.

Key words: Dietary management; Prenatal care; Kogi State; Nigeria.

Introduction

Background of study

Dietary management is defined as the process of controlling and organizing food ingested by humans (Cambridge Dictionary, 2008). A healthy and optimum nutrition is ensured through dietary management. The council on Food and Nutrition of the American Medical Association (2005) defines nutrition as the science of food, the nutrients and other substances therein; their action, interaction and balance in relation to health and diseases, and the process by which the organism (human) ingest, digests, absorbs, transports, utilizes and excretes food substances.

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Adequate nutrition and health care during the first few years of life is fundamental for child survival and prevention of malnutrition. It is important to note that it is during infancy and early childhood that irreversible faltering in linear growth and cognitive deficit occurs (Oganah, 2010).

Nutrition plays an important role in prenatal care and the aim of good prenatal care is to detect any potential problem early as well as to prevent them if possible through recommendation of adequate nutrition, exercise, etc (Cunningham *et al.*, 2005).

Nutritional health is maintained by a state of equilibrium in which nutrient intake and nutrient requirements are adequate. Rutecki, (2010) revealed that, availability of routine prenatal care has and will play a part in reducing maternal death rates and miscarriage as well as birth defects, low birth weight and other preventable infant problems. He further explained that mother's diet and glucose levels prior to ovulation and conception have long term effects on fetal's growth. Gibney *et al.*; (2004) reported that, a variety of nutritional and non nutritional factors can act during the pre-conception period, pre-conception body weight and gestational weight gain have independent but cumulative influence on the birth weight.

Inadequate nutrition during the critical formative year has both immediate and long-term consequences (Oganah, 2010). The immediate consequences include morbidity, mortality and delay physical and mental development, while long-term consequences include impaired intellectual work capacity and increase risk of chronic diseases.

Sanusi *et al.*; (2002) reveal that poor dietary pattern before and during pregnancy is one of the major causes of malnutrition, although the demand for energy and other nutrients increased during pregnancy. Some pregnant women deliberately reduce their dietary intake in an attempt to have smaller babies during delivery (Ojofeitimi *et al.*; 2008). He stated that, this might be due to the fear that, uncontrolled dietary intake during pregnancy might result in having a big baby which in turn leads to increase risk for caesarean section.

The consequence of faulty dietary habit leads to maternal malnutrition especially the incidence of anaemia in pregnancy, low birth weight, poor maternal weight gain and increase risk for Neural Tube Defect, cleft lip, cleft palate and maternal mortality and morbidity (Sanusi and Omoni, 2000; Oredipe, 2002; Langley *et al.*, 2000; Eleanor and Sharon, 2002; Fall, 2003). Brundage, (2002) expressed the view that if prenatal care is inadequate, delayed or absent, untreated maternal nutrition deficiencies can deprive a developing fetus of needed nutrients.

General Objective

- The general objective of the study is to determine the nutritional status of prenatal women under study.

Specific Objectives of the Study

- To find out the feeding pattern of women prior to pregnancy and during pregnancy in the area under study
- To evaluate the effect of dietary habits and social economic life style on the nutritional status of the prenatal women under study.
- To ascertain the effect of improper dietary habits on the health of prenatal women under study.

Materials and Methods

Study Area.

The study was hospital based, conducted among women attending prenatal clinic in Anyigba, Dekina Local Government Area, Kogi State. They were offered dietary counseling, management and treatment.

Research Subjects

A total of 120 prenatal women, aged 16-45 years, married and unmarried were included in the study.

Data on dietary management of the subject were collected from Kogi Diagnostic (general), Grimad (mission) and Maria Goretti (Private) hospitals in Anyigba.

Sample Population

A total of one hundred and twenty (120) prenatal women that were registered and were attending pre natal clinic were used. A simple random sampling technique was used to select one hundred and twenty prenatal women that were used for the study.

Technique for Data Collection

Questionnaires comprising of 30 questions were completed. The questions referred to the respondents foods produced and consumed and the deficiency diseases experienced after the consumption. Out of one hundred and fifty (150) questionnaires distributed, one hundred and twenty six (120) were completed and returned while twenty four (30) were not.

Data Analysis

Data collected were analyzed using frequencies and percentages as described by (Excel, 2007). Least square regression was used to measure the relationship between their health status and dietary pattern

Results

Social demographic characteristics of the subjects:

The age range of the prenatal women was between 16-45 years with majority 49% between the ages of 21-30 years, 27% between 31-40 years, 16% between 16-20 years while the least (8%) were between 41-45 years. 57% of the women were married, 27% unmarried, 8% divorced and also 8% widowed. On the educational qualification 36% had tertiary education, 31% secondary education, 20% primary education while 13% had no formal education. 40% of the women earned below five thousand naira (<₦5,000), 25% earned ₦ 5,000-20,000, 17% earned ₦ 20,000- ₦ 50,000 while 8% earned ₦ 50,000 and above. 50% of the respondents were civil servants, 25% traders, 15% retiree while 10% were full house wives. 80% of the respondents had family size of 4-6, 21% had 7-9, while 10% had 1-3. Christians made up 73% of the respondents, Moslems 25%, while Africa Traditional Religion had the least of 2%.

Table 2 shows food consumption pattern of the subjects, 44% of the respondents based their food consumption pattern on bread and cereal, 21% meat and mild products, 19% fat and oils while 16%, fruits and vegetables. In Table 2, 56.7% never skipped breakfast, 4.2% always skipped breakfast while 39.1% occasionally skip breakfast. Table 2 also presents reasons for choice of food by the respondents, 37.5% of the respondents indicated no enough money, 33% indicated food taboos while 12% indicated lack of time to cook.

Table 1: Socio-demographic characteristics of the subjects

Demographic characteristics	Frequency	Percentage
Age (Years)		
16 – 20	19	16
21 – 30	59	49
31 – 40	32	27
41 – 45	10	8
Total	120	100

Demographic characteristics	Frequency	Percentage
Marital Status		
Married	68	57
Unmarried	32	27
Divorced	10	8
Widowed	10	8
Total	120	100
Level of Education		
No Formal Education	15	13
Primary Education	24	20
Secondary Education	37	31
Tertiary Education	44	36
Total	120	100
Level of Income		
< ₦5,000	49	40
₦5,000 – ₦20,000	30	25
₦20,000 – ₦50,000	21	17
₦50,000 and above	10	8
Total	120	100
Occupation		
Trading	30	25
Civil Servants	60	50
Retirees	18	15
Housewives	12	10
Total	120	100
Family Size		
1 – 3	10	8
4 – 6	80	67
7 – 9	21	18
10 and above	9	7
Total	120	100
Religion		
Christianity	87	73
Moslem	30	25
Traditional	3	2
Total	120	100
Weight of Subjects (kg)		
≤ 50	12	10
51 – 60	40	33
61 – 70	30	25
71 – 80	25	21
81 and above	13	11
Total	120	100

Table 2: Food consumption pattern of the subjects

Food Groups	Frequency (n=120)	Percentage
Meat and milk products	25	21
Bread and cereals	52	44
Fruits and vegetables	20	16
Fats/Oils	23	19
Total	120	100

Quality of food consumed

Food Consumption	Frequency	Percentage	Quality below normal	Normal	Quality above normal
Meat and milk products	25	20.8	33	25	42
Starchy staples	52	43.3	9	39	52
Fruits	10	8.3	78	10	12
Vegetables	10	8.3	78	10	12
Oils	23	19.3	23	27.6	49.4
Total	120	100			

Skipping of meals

	Breakfast		Lunch		Dinner	
	Frequency	%	Frequency	%	Frequency	%
Never	68	56.7	77	64.2	81	67.5
Always	5	4.2	3	2.5	6	5
Occasionally	47	39.1	40	33.3	33	27.5
Total	120	100				

Reasons for choice

Reasons	Frequency (n=120)	Percentage
Food taboos	20	17
Lack of time to cook	15	12.5
Not enough money	45	37.5
Seasonal availability	40	33
Total	120	100

In Table 3, the result showed that majority of the women (54%) were in health, 21% had iron deficiency (anaemia), 16.7% were at risk during pregnancy while 8.3% had birth complication. On the issue of fetal development in table 3, 48.3% of the foetus had normal development, 14.2% had facial and heart abnormalities, 13.3% had Neural tube defects, 12.3% had low birth weight while 11.7% had impaired mental and physical development.

On the prenatal clinic attendance, 54% of the respondents always attend prenatal clinic while 17% never attended.

Table 3: Health status of the subjects

Health status of mothers	Frequency	Percentage
Normal	65	54
Birth complication	10	8.3
Iron deficiency anaemia	25	21
Risk of pregnancy	20	16.7
Total	120	100
Foetal development		
Normal	58	48.3
Neural tube defects	16	13.3
Low birth weight	15	12.5
Impaired mental and physical development	14	11.7
Facial and heart abnormalities	17	14.2
Total	120	100
Prenatal Clinic Attendance		
Never	20	17
Occasionally	35	29
Always	65	54
Total	120	100

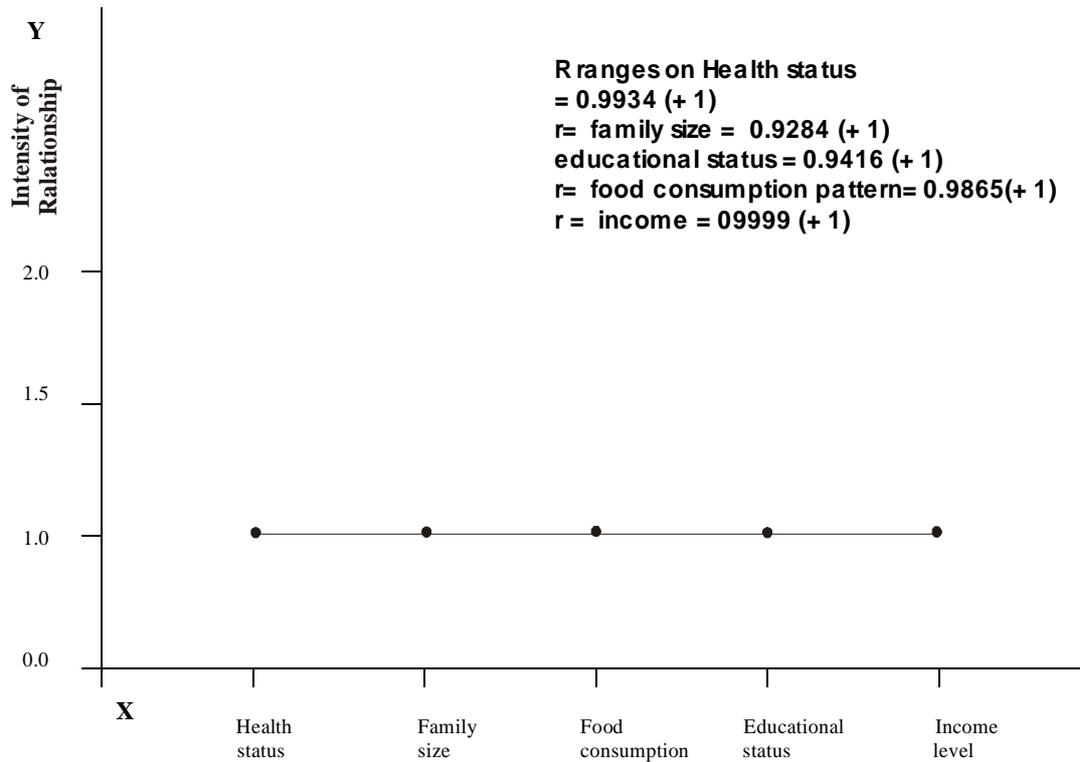


Figure 1: Relationship between health status of the subjects with food consumption, family size, educational status and level of income.

Discussion

From Table 1, 49% of women ages 21-30 years received prenatal care. This shows a good turn out, while 27% between ages 31-40 years, 16% of the women were between ages 16-20 while 8% were between 41 and above. This agreed with reports by Eleanor and Sharon, (2002) that the physically ideal child bearing age, is within 20-25 years, and that both younger and older women face more complication of pregnancy.

Table 1 revealed that there is a significant correlation between educational status with increased perfect positive health relationship of the mother and fetal development (54% and 48.3%) respectively. From table 1, 40% of the respondents earned <#5,000 monthly, and reports have it that women with no or limited income tend to have inadequate diets which has great influence on pregnancy outcome (Carol *et al.*, 2009).

Eleanor and Sharon, (2002) reported that women's weight prior to conception and during pregnancy has influence on infants birth weight. This means that, 12% of women with weight range ≤ 50 kg, 11% with weight range ≥ 91 kg are at risk of pregnancy/birth complications. 62.8% from table 2 practiced normal dietary habit (i.e those that never skip meals) while other respondents were skipping meals. Hence, Keen, *et al.*,(2003) reported that pregnant women with diet that deviate greatly from the recommended diet either by restricting dietary intake or eating excessive quantities of a limited number of foods are at risk getting too few nutrients and a poor pregnancy outcome. Thus this findings is in lined with Keen, (2003), Sanusi and

Oredipe, (2002), that the consequences of faulty dietary habit result maternal malnutrition that may lead to increase incidents of anaemia in pregnancy, low birth weight, poor maternal weight gained an increase weight for neural tube defects, cleft palate, cleft lip and maternal mortality and morbidity.

Conclusion

Dietary intake and health status are perfectly related to adequate nutrition. From the finding 62.8% of the respondent had normal dietary pattern (ie those that obtained proper dietary management) while 33.9% of them underfeed, and 3.3% overfeed. At 1% level of significance educational status, family size, income level, food consumption pattern were positively related to their health status. This means that, the respondents with improper dietary management stand the risk of becoming malnourished which could result from their poor dietary pattern and could be caused from any of this factor (prenatal clinic attendance, marital status, weight and age of the respondents).

Since adequate maternal nutrition is necessary to ensure proper fetal development as well to maintain the health of the mother, appropriate nutritional intervention is required to ensure a healthy and optimum dietary management. Women of low socio economic status should be helped to procure food and nutrition education they need, since effective nutritional knowledge and information of the women in prenatal period will go a long way in combating malnutrition and mitigating its unpalatable consequences in prenatal period.

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