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AWARENESS OF THE IMPORTANCE OF GOOD NUTRITION DURING PREGNANCY AMONG WOMEN OF CHILDBEARING AGE IN DOKA, KACHIA LOCAL GOVERNMENT AREA OF KADUNA STATE

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ABSTRACT

Pregnancy requires a proper nutrition schedule as it is of major importance for one's health and well-being and during a critical time period as child bearing, a woman undergoes major biological, physical, psychological and social transformations that her body has to keep up with. Deficiency of micro and macronutrient predispose the fetus to neural tube defects, preterm birth, and low birth weight for gestational age. This study aims to create awareness on the importance of good nutrition during pregnancy among women of childbearing age in Doka, Kachia Local Government Area, Kaduna, Kaduna State. This study uses a cross-sectional and descriptive design, 80 women of childbearing age were randomly selected from Doka, Kachia Local Government Area, Kaduna, Kaduna State. The collated data was statistically analyzed by using descriptive statistics. The result reveals that most (36.25%) of the respondents were within the age range of 20-24years with a larger (41.25%) percentage of the respondent having secondary education. Educational level and age are risk factors for pregnant women, especially young adults. Most of the selected respondents have some level of awareness on nutrition during pregnancy In conclusion, our conceptualization of nutrition awareness has shown to be fruitful in ascertaining the understanding level of the respondents which can help in contributing to the pregnancy outcome when due.

Keywords: Awareness, Nutrition, Pregnancy, Childbearing

INTRODUCTION

Pregnancy places a lot of physiologic, metabolic, and nutritional demands on the woman. Consequently, if optimal nutritional needs are not met, morbidity and even mortality can occur for both the mother and her foetus. The pregnant woman, therefore, needs to have a dietary intake sufficient to provide energy and nutrients for the mother as well as foetus (Musa *et al.*, 2021) According to the American College of Obstetricians and Gynecologists (ACOG) (2020), Pregnancy is the term used to describe the period in which a fetus develops inside a woman's womb or uterus.

Pregnancy goes on for about 40 weeks or a little over 9 months as measured from the last menstrual period to child birth. This period is divided into three segments referred to as trimesters by health care providers. An adequate nutrition pattern is of major importance for one's health and well-being, especially during pregnancy when a woman undergoes major biological, physical, psychological and social transformations (Anderson, 2001). The age distribution of the consumers on a study on the consumption pattern of meat and fish in Kaduna metropolis indicated that 35% are females between the ages of 15 – 45 years. Consumer's age was found to be positively significant to the consumption of animal protein especially for female of child bearing age (Balogun *et al., 2018)*

Deficiency of micro and macronutrient predispose the fetus to neural tube defects, preterm birth, and low birth weight for gestational age (Botto *et al*., 1998). Among women of lower socioeconomic status (SES). Premature births and low birth weight for gestational age are very more prevalent (Kramer *et al*., 2000). Moreover, poor diet quality during pregnancy is mostly related to the class of lower education, poor pre-pregnancy weight status and lower awareness about nutritional recommendations during pregnancy with lower SES all these conditions are more prevalent among pregnant women (Reyes *et al*., 2013). Poor eating habits and overall diet quality stress and depressive symptoms are important negative predictors (Laraia *et al*., 2007). Maternal nutrition plays a crucial role in influencing fetal growth and birth outcomes.

Pregnancy is a vital period where lifestyle, habits can all affect the future child and so makes it a good time to consider the adoption of healthier habits that would be beneficial to both mother and child presently and going forward.

When women are expecting a baby or breastfeeding a baby, nutritious food is very important for pregnancy and lactation places extra demands on the body. To meet these demands, women, need to think about what is best to eat and drink. Good nutrition in pregnancy helps to stay healthy and energetic and to prepare to take care of the newborn and the rest of the family (Crawley, (2017)

Nutrient like folic acid is extremely important during pregnancy, especially in the early period of pregnancy and even before conception and it is a very important nutrient to avoid neural tube defect in the fetus during pregnancy (Daba *et al*., 2013). Pregnancy increases the iron requirements for the mother and her fetus. Iron sufficiency is essential for oxygen delivery to the maternal-placental-fetal unit to support the increased oxygen consumption demand of pregnancy. Fortunately, the ability to absorb iron increases during pregnancy and also in breastfeeding (Jamila, 2015).

Iron is best found in lean meats such as liver and kidney and also vegetables especially beans and peas. Rich vitamin C or acidic foods such as fruits, juice, bell peppers, tomatoes and fermented foods help in iron absorption from sources like vegetables. Tea and coffee reduce the ability to absorb iron, so it is advised to drink them between meals rather than when eating iron-rich foods (Daba *et al*., 2013).

Calcium is important for the healthy bones and teeth in both pregnant women and fetuses with excellent sources being milk, dairy products and some cereals. Women should spend more time outdoor, especially in sunny weather helps to produce vitamin D in the skin when exposed to sunlight.

Vitamin D is also found in foods, such as oily fish, eggs, butter, and fortified margarine (Kim *et al*., 2018). Drinking plenty of water around 6 to 8 glasses a day. Women who are breastfeeding should drink the amount needed to satisfy their thirst. Substances that harm the fetus are alcohol, Smoking, Caffeine and many medications that can adversely affect your baby are contraindicated for pregnant women or lactating mothers. This study tends to creates awareness of good nutrition during pregnancy among women of childbearing age.

MATERIALS AND METHODS

Descriptive study was used to assess the level of awareness of good nutrition during pregnancy among women of childbearing age in Doka, Kachia Local Government Area of Kaduna State.

The population of the study comprises childbearing age women in Doka, Kachia Local Government Area of Kaduna State from age 18-45.

Sample size and sampling techniques

The sample size was determined using Fisher's formula

$$n = \frac{Z^2 qp}{e^2}$$

where n is the sample size

Z^2= standard normal corresponding to 95% confidence level, 1.96 is the value from the normal distribution.

P= prevalence estimated of Kaduna State

q= complementary probability

e^2= desired precision (0.05).

From the formula, a sample size of 73 was obtained. A 10% allowance for unusable data and incomplete questionnaires was added, making a total sample size of 80

Doka community was stratified into four cardinal points (North, south, east, west). Simple random sampling was adopted to select twenty (20) respondents from each stratum.

The research instrument used for the study to collect data was a structured questionnaire which contain four sections, Section A, B, C and D.

Section A: The socio-demographic characteristics of the respondents.

Section B: The awareness level of good nutrition,

Section C: Anthropometric indices of the respondents

Section D: Food consumption patterns among respondents

The research instrument copy of the questionnaire was validated through review by the researcher's supervisor to ascertain face and content validity, and also to check for any unclear and ambiguous question for modification.

Data was collected by the researcher and a research assistant through face-to-face administration of the copies of the questionnaire from respondents.

Ethical consideration

The ethical clearance was obtained from the ethical committee of Kaduna State Ministry of Health through a letter of permission and presentation of research proposal. Informed consent was also solicited and acquired from participants before survey.

The data derived from the filled questionnaire were analyzed by the use of descriptive statistical analysis methods. These include frequency, percentage, means and total. A score ≥50% was graded as good awareness of good nutrition during pregnancy among women of childbearing age and less than was graded as poor awareness of good nutrition. The collected data was reviewed and organized by a computer system running the statistical package of social science (SPSS)

RESULTS AND DISCUSSION

The results in Table 1 below reveal the sociodemographic characteristics of the respondent, it divulges that majority (36.25%) of the respondent was within the age range of 20-24years with only 5% been around 19years and below. Furthermore, most (41.25%) of the respondents had secondary education with a larger (32.5%) proportion involve in trading activities as their occupation. larger (37.5%) percentage of the respondents having household monthly income ranging between ₦ 21, 000-50,000.

Table 1: Socio-demographic characteristics of the respondents

Variables	Frequency (n=80)	Percentage (%)
Age (years)		
15-19	4	5
20-24	29	36.25
25-29	21	26.25
30-34	14	17.5
35-39	10	12.5
40 & above	2	2.5
Total	80	100
Educational level		
Non-formal	3	3.75
Primary	27	33.75
Secondary	33	41.25
Tertiary	17	21.25
Total	80	100
Occupation		
Farming	9	11.25
Trading	26	32.5
Civil servant	11	13.75
Private worker	19	23.75
Business owner	8	10
Artisan	7	8.75
Total	80	100

Household income per month (₦)		
<5,000	6	7.5
5,000-20,000	19	23.75
21,000-50,000	30	37.5
51,000-100,000	18	22.5
100,000 & above	7	8.75
Total	80	100

Table 2: Awareness level of the respondents

S/N	QUESTION	YES (%)	NO (%)	NOT SURE (%)	TOTAL (%)
1	Are you aware of the importance of good nutrition to a pregnant woman?	74 (92.5)	6 (7.5)	0	80 (100)
2	Does the level of education among child bearing age mother affect their food intake?	53 (66.3)	27 (33.7)	0	80 (100)
3	Do pregnant women living in the rural areas eat food reach in vitamins?	70 (87.5)	10 (12.5)	0	80 (100)
4	Are pregnant women aware of the necessary food intake during pregnancy?	39 (48.8)	27 (33.7)	14 (17.5)	80 (100)
5	Do Poor food intake by a pregnant woman lead to malformation of the unborn child?	78 (97.5)	2 (2.5)	0	80 (100)
6	Do you think miscarriage among child bearing age mother is due to poor food intake?	63 (78.8)	17 (21.2)	0	80 (100)
7	Can Poor nutrition among child bearing age mothers increases the risk of child delivery?	73 (91.3)	7 (8.7)	0	80 (100)
8	Does poor nutrition during pregnancy affect the proper development of the unborn child?	73 (91.3)	7 (8.7)	0	80 (100)
9	Does Poor nutrition among child bearing age mother leads to low blood count?	71 (88.8)	9 (11.2)	0	80 (100)
10	Is financial constraints a problem affecting the food intake among childbearing age mothers?	63 (78.8)	17 (21.2)	0	80 (100)
11	Does lack of awareness of a balanced diet by childbearing age mothers have any effect on her life cycle?	60 (75.0)	20 (25.0)	0	80 (100)
12	Can Good nutrition promote healthy living among childbearing age mothers?	80 (100)	0	0	80 (100)
13	Does Good nutrition among pregnant women during pregnancy reduces the risk of childbirth?	50 (62.5)	30 (37.5)	0	80 (100)
14	Can Proper education should be given to pregnant mothers on the importance of good nutrition during pregnancy?	69 (86.3)	11 (13.7)	0	80 (100)
15	Television jingles should be carried out on the importance of good nutrition during pregnancy?	65 (81.3)	15 (18.7)	0	80 (100)

The responses obtained from the questionnaire as presented in Table 2 shows that 92.5% of the respondents agreed that they are aware of the importance of good nutrition to a childbearing age mother while 6% were not aware of the importance of good nutrition to a childbearing age mother.

Also, 66.3% of the total respondents are of the view that the level of education among childbearing age mother affect their level of food intake while 33.7% said the level of education among childbearing age mother does not affect their level of food intake.

The Table 2 indicated that 87.5% of the total respondents said that pregnant women living in rural areas eat food that is rich in vitamins and 12.5% said pregnant women living in rural areas do not eat food rich in vitamins.

From Table 2, it indicates that 48.8% of the total respondents agreed that pregnant women are aware of the necessary food intake during pregnancy while 27 respondents which represent 33.7% disagreed and 17.5% were not too sure.

From Table 2 indicates that 97.5% said that poor food intake by a pregnant woman leads to malformation of the unborn child while 2.5% said that poor food intake does not lead to malformation of the unborn child.

Table 2 indicates that 63 respondents which represent 78.8% of the total respondents said that miscarriage among childbearing age mothers is due to poor food intake while 21.2% said that miscarriage among childbearing age mothers is not due to poor food intake.

The Table indicated that 91.3% agreed that poor nutrition among childbearing age mothers increases the risk of child delivery while 7 respondents which represent 8.7% disagreed that poor nutrition increases the risk of child delivery among childbearing age mothers.

From Table 2, it indicates that 91.3% agreed that poor nutrition during pregnancy affects the proper development of the unborn child while 8.7% disagreed.

From Table 2, it indicated that 88.8% of the total respondents agreed that poor nutrition among childbearing age mother led to low blood count while 11.2% disagreed that inadequate nutrition leads to lower blood counts among childbearing age mothers.

From Table 2, it can be seen that 75% of the total respondents said that the lack of awareness of a balanced diet among childbearing age mothers affects her life cycle 25% disagreed.

Table 2 shows that 80 respondents which represent 100% show that good nutrition promotes healthy living among childbearing age mothers while none disagreed.

Table 2 indicates that 62.5% of the total respondents said that good nutrition among pregnant women during pregnancy reduces the risk of childbirth while 37.5% disagreed with the opinion.

The Table shows that 86.3% of the total respondents agreed that proper education should be given to pregnant mothers on the importance of good nutrition during pregnancy while 13.7% disagreed.

From Table 2, 81.3% of the total respondents agree that television jingles should be carried out on the importance of good nutrition during pregnancy while 18.7% disagreed with the opinion.

Table 3: Nutritional status of the respondents

Parameters	Frequency	Percentages
Underweight (<18.5)	15	18.5
Normal (18.5-24.9)	43	53.75
Overweight (25-29.9)	17	21.25
Obese (>30)	5	6.25
Total	80	100

Table 3 shows the nutritional status of the respondents. It reveals that 18.75% of the respondents were underweight, 53.75 were normal, 21.25 were overweight while 6.25% are obese using body mass index classification.

Table 4 shows the frequency of food consumption of the respondents, majority of the respondents consume cereals and cereal products such as rice (46.25%), and bread (53.75%) three to four times a week while cornflakes are majorly (56.25%) consuming 1-2 times a week. Furthermore, legumes which are major (58.75%) consume about once to twice weekly is beans, however, orange (58.75%) and watermelon (42.5%) are mostly consumed by the respondents once to twice a week. Also, butter/margarine is most (46.25%) consuming 3-4 times a week while cooking oil is being consumes nearly (52.5%) daily by the respondents.

Table 4: Food Frequency Consumption Pattern of the respondents.

Food Items	Never		Occasionally		1-2 times		3-4 time		5 or more times		Daily		Total	
Cereals and cereal product	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Rice	2	2.5	7	8.75	24	30	37	46.25	6	7.5	4	5	80	100
Bread	7	8.75	11	13.75	19	23.75	43	53.75	0	0	0	0	80	100
Corn-meal	5	6.25	16	20	31	38.75	18	22.5	9	11.25	1	1.25	80	100
Spaghetti	4	5	32	40	24	30	14	17.5	4	5	2	2.5	80	100
Cornflakes	1	1.25	17	21.25	45	56.25	14	17.5	3	3.75	0	0	80	100
Legumes														
Beans	0	0	10	12.5	47	58.75	21	26.25	2	2.5	0	0	80	100
Soy-milk	23	28.75	37	46.25	16	20	3	3.75	0	0	1	1.25	80	100
Peas	15	18.75	41	51.25	23	28.75	1	1.25	0	0	0	0	80	100
Fruits														
Orange	5	6.25	12	15	47	58.75	10	12.5	5	6.25	1	1.25	80	100
Watermelon	9	11.25	21	26.25	34	42.5	14	17.5	2	2.5	0	0	80	100
Vegetables														
Spinach	2	2.5	7	8.75	32	40	22	27.5	13	16.25	4	5	80	100
Lettuce	22	27.5	29	36.25	29	36.25	0	0	0	0	0	0	80	100
Meat and poultry														
Beef	4	5	3	3.75	13	16.25	13	16.25	21	26.25	26	32.5	80	100
Chicken	16	20	20	25	33	41.25	10	12.5	1	1.25	0	0	80	100
Egg	5	6.25	22	27.5	14	17.5	25	31.25	9	11.25	5	6.25	80	100
Fish	2	2.5	6	7.5	20	25	19	23.75	23	28.75	10	12.5	80	100
Milk & milk product														
Yogurt	11	13.75	21	26.25	39	48.75	8	10	1	1.25	0	0	80	100
Evaporated milk	9	11.25	19	23.75	24	30	26	32.5	2	2.5	0	0	80	100
Cheese	20	25	14	17.5	35	43.75	10	12.5	1	1.25	0	0	80	100
Fat and oil														
Butter / margarine	18	22.5	2	2.5	10	12.5	37	46.25	6	7.5	7	8.75	80	100
Cooking oil	0	0	0	0	4	5	12	15	22	27.5	42	52.5	80	100

Discussion

Women of child-bearing age (especially pregnant and lactating women) are in the most nutritionally-vulnerable stages of the life cycle. The incidence of dietary inadequacies as a result of dietary habits and patterns in pregnancy is higher during pregnancy when compared to any other stage of life. The majority (36.25%) of the respondents were in their early adulthood (20–24 years), which corresponds with what was reported in the demographic and health survey (NDHS, 2018). Educational level and age are risk factors for pregnant women especially young adults. Existing literature has shown that educational levels of expectant mothers were synonymous to the kind of eating habits displayed by them with evidence shown in the results of a study carried out among in-school adolescents in Belgium (Gadegbeku *et al.*, 2013). Furthermore, education in a certain kind of environment such

as schools and health facilities can be a valuable strategy in influencing health and nutrition while complete curricula incorporation can significantly increase knowledge on nutrition related diseases among students as well as the nutrient value of foods and fresh vegetable preference which can result in the decrease in soda drink consumption; education qualifications influence awareness on the consumption of adequate food nutrients.

In this study majority (92.5%) of the respondents indicated to be aware of the importance of good nutrition during pregnancy, a similar result was reported by Fowles *et al*. (2005) which states that the majority of the parents are aware of the importance of good food during pregnancy.

It was also noted that majority (66.25%) of the respondents were of the opinion that the level of education among childbearing age mother affect their level of food intake, which also corroborated the perspective of Fowles *et al*. (2005) which states that women who eat better during pregnancy are aware of healthy diets and practice them. They believe that to maintain these healthy habits during the period, they have to consume protein and eat well-balanced meals.

Also, a good number (48.75%) of the respondent identified that they know deals on pregnant women's awareness of the necessary food intake during pregnancy and this view was corroborated by the study conducted by Fowles *et al*., (2005). This would imply that most pregnant women have an adequate level of nutritional knowledge which might have prompted their awareness.

In this study, 18.5% of respondents were not properly nourished as seen in their BMI being less than 18.5; the result is consistent with finding from Kenya where 19.3% of women of childbearing age were undernourished (Willy *et al*., 2016). On the contrary, the result of the present study is higher than the study reported in Kogi where 11.8% of women of childbearing age were undernourished (Veronica *et al*., 2013). Another study from the northern part of Niger state also indicated a lower prevalence (16.2%) compared to this study (Kuche *et al*., 2015). These variations might be attributed to the difference in nutritional practice, and a seasonal variation on food consumption, couple with food security alongside other environmental factors.

Poor nutritional knowledge and poor dietary practice were positively associated with maternal undernutrition. The odds of undernutrition among women with poor dietary knowledge and poor dietary practice were higher than their counterparts. This could be possibly due to that when a woman had poor nutritional knowledge, she became less focused on good dietary practice and did not put it into practice. Besides, poor nutritional knowledge about basic nutrients and a balanced diet usually results in poor dietary practices leading to undernutrition. (Wang *et al.,* 2023).

Not engaging in appropriate dietary practice contributes to low dietary diversity and nutrition intake leading to undernutrition. Among dietary perceptions, women who perceived positive, confident and were able to follow good nutritional practice (self-efficacy) had lower odds of undernutrition.

CONCLUSION

The results from the study show that the majority of the respondents had a good level of awareness towards good nutrition, however, this did not translate to good dietary practice for about half of the respondents. This level of awareness exhibited by the respondents in this study might be in association with their sociodemographic statuses such as education, and monthly income. Also, urbanization might contribute towards this as more information tends to be available to urban dwellers compared to their rural dweller counterparts.

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