The Impact of Level of Education of Pregnant Women on Nutritional Adherence

Bada, Festus Olatunji [PhD]

Department of Guidance and Counselling
Faculty of Education, Ekiti State University, Ado-Ekiti , Nigeria.
E-mail: sampromise2@yahoo.com

Falana, Bernard Akinlabi [PhD]

Department of Guidance and Counselling
Faculty of Education, Ekiti State University, Ado-Ekiti , Nigeria.
E-mail: falana2010@yahoo.com

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Abstract The study examined the impact of educational level of pregnant women on their adherence to nutrition recommendation in Ado-Ekiti local government area of Ekiti state. The study investigated the Impact of education, the knowledge, the social status, socio-economic and socio-cultural factors on adherence to nutrition among pregnant women in Ekiti State, Nigeria. The research design for the study was descriptive in nature and survey approach was adopted for the entire population. The population consisted of the literate and illiterate pregnant women of child bearing ages selected through purposive random sampling technique in five hospitals in Ado-Ekiti local Government. A sample of 100 respondents was randomly selected using purposive and stratified random sampling technique. A questionnaire tilled "Education and nutrition of pregnant women in Ekiti State "was used for collecting data. To ensure the validity of the instrument copies of the instrument were given to health care practitioners and nutrition specialists in the hospitals that are not part of the sample and the Department of Health and Human kinetics Ekiti State University. They ensured face and content validities of the instrument. A reliability coefficient of 0.74 was obtained using test retest reliability. This was found significant at 0.05 level of significance. The instrument was personally administered in the maternity homes in Ado-Ekiti local Government Area of Ekiti State. The data generated were analysed using descriptive and inferential Statistics. The general question raised was answered using frequency counts and percentages. The hypothesis postulated was tested using Chi-square (x^2). The analysis of the data revealed that Education determined to a large extent the nutritional adherence by pregnant women. There are significant relationship between the education level of respondent pregnant women and their nutritional adherence. Based on the findings, the curriculum planners should integrate nutritional counselling to all levels of education in Nigeria schools. The Ekiti State Government and Nigeria Government should have a nutritional guide for would be pregnant women in Ekiti State.

Keywords: level of education, pregnancy, nutritional adherence.

1. Introduction

The type of food taken by women during pregnancy influences the health of pregnant women and fetal development. It has impacts on the development of the placental and maternal state of health or wellbeing (Carmichael and Abrams 1997; Siega-Riz, Adair & Hobel 1996; Smith, 2004). During the first 2 months of pregnancy, the embryo and placenta undergoes a process of rapid cell differentiation and division and are particularly sensitive to excesses and differences in micro nutrients. Godfrey & Barker (2001) observed that inadequate levels of maternal nutrients during this crucial period may lead to reprogramming within the fetal tissues that exposes the infants to chronic illness or malformation in adulthood.

The researchers observed that a lot of school children appear to have problem assimilating, memorizing and even have problem with reading. Most of the pupils interviewed from lower and higher classes, educated and illiterate homes, there appear to be discrepancies in their study habit, posture, behavior and their social interaction. The researcher therefore looked at the background of the children, observed and interacted with the pregnant women to find out if the pregnancy state have impact on certain attributes possessed by the pupils. It also appears as if the level of education and their amenability to counselling impacts on the management of pregnancy through nutrition. Majority of the pregnant women are immature financially and age making them unable to manage the state of pregnancy.

In 1965, a World Health Organisation (WHO) Expert committee on nutrition in pregnancy and Lactation observed that next to young children, pregnant and lactating women are nutritionally the most vulnerable group especially in the

developing regions of the world and yet comparatively little is known of their special nutritional needs (WHO, 1965) .This may be due to their low level of education.

Regrettably the situation still remain the same in developing nations like Nigeria, majority of women are in constant state of limbo and nutritional stress. This in fact has been accountable for premature death, chronic protein-energy malnutrition, iron deficiency anemia and a host of other deficiencies. Household or pregnant women's nutritional status depends on socioeconomic and socio-cultural factors such as income literacy or traditional beliefs.

All these appear to affect pregnant women's nutritional status and their nutritional related roles. The effect of gender and poverty on nutritional status of pregnant women may be synergistic. Levinson (1974) in an economic analysis of malnutrition among young children in Punjah found that while gender was the most statistically significant determinant of nutritional status, male-female differential in nutritional status were especially great among the lower socioeconomic group. Nutritional status among the higher and owning caste was better on the whole and the gender differentials was also smaller. According to existing documents, there is deterioration in nutritional status cross-sectionally. As females grow older, the combined result of socio-cultural, economic, biological processes, gender differences in adult nutritional status also appear to be exacerbated by poverty according to McNeill (1984).

The time of marriage and child bearing affect pregnant women nutritional status directly as well as indirectly through associated socio-cultural norms and practices. They also affect pregnant women's education and employment which exert considerable influence on household nutrition. In India's Office of the Registrar-General 1983, it was revealed that women have one of the lowest mean ages of marriage in the world 18.3 years (1981) with lower averages obtaining in rural areas and in some states .These low ages are reflected in the proportions of girls married among younger age groups almost 8% of 10.14 year olds and 44% of 15-19 years old .In Pakistan universal marriage almost obtained by the age of 24 years among women. The mean age at marriage was 20.4 years in 1981. Among the correlates of age at marriage, female literacy is paramount, while other factors such as general literacy, per capital income level of urbanization, non- agricultural employment and mass media are also important (Srivastav, 1986). At the State level women's participation in agriculture has a negative correlation with female age at marriage because higher participation rates are indicative of more traditional communities. Thus, where women are married early they are not only deprived of schooling, the benefits of this may affect their nutritional awareness, while they are also exposed to the double energy demands of grueling agricultural work , early frequent and prolonged childbearing.

Early, frequent and prolonged childbearing are associated with higher risks of malnourishment and mortality to both pregnant mothers and infants. Das (1975) found that the mortality rate among children born between 1.5 and 2.5 years of a previous birth was almost half that of children born within 1.5 year birth interval. With longer interval the mortality rate decreased further. In a survey conducted by WHO on 6000 women, the mortality of infants born within a year of a previous birth was twice as high as that of infants born after two years of previous birth (Ghosh, 1987).

The mechanisms where women's education results in lower child mortality have been the subject of some speculations. Children health and survival appears to be enhanced by better hygiene, improved nutrition and feeding practices of the child and the mother and timely medical intervention. Education may enable women to take independent decisions and act on them. Educated women appear to have greater roles in household decision making and be permitted by other household members to pursue appropriate strategies. The effect of women's education on their own nutritional status and on their children is exerted through their roles as providers of household health and nutrition care. When it comes to nutrition of pregnant women, nutritional knowledge may be important than income. Bairagi (1980) studied the relationship between child nutrition and factors such as family income, maternal education and birth order. He found that income was not the only constraint on nutritional status, even in the lowest income group. Maternal education had a significant influence on nutritional status as did the child's sex and birth order .A literate mother used scarce resources better for her child's welfare than did an illiterate mother with higher income. Sen & Sengupta (1983) studied two villages in West Bengal, it was revealed that children with literate mothers fared better than those with illiterate mothers in terms of nourishment .It shows that literacy and prosperity went hand in hand.

Accessibility to health care also affects the nutritional status and roles of pregnant women. The woman is the first health care provider within the household. A woman's knowledge of good health and nutrition practices is crucial. This knowledge may be gleaned from school, older family members or other informal networks. Pregnant mothers should have the preventive knowledge of health. This will enable them to carry out their preventive multiple roles as producers, mothers and child minders. Antenatal, intranatal and postnatal care affect the viability of infants and the survival of mothers nutritional care, protect growth and development and ensure better health for pregnant and lactating women.

Blount (2005) doubtlessly expressed that nutrition, well-balanced eating adherence is one of the greatest gifts a pregnant woman can give to her soon to-be-born baby. Adopting a healthy nutrition adherence before pregnancy is ideal. According to him eating and supplying ones body with a tasty blend of nutritious food can improve fertility, keep the health

during pregnancy and pave the way for an easier labour. This can also help to establish essential building blocks of growth and overall health for the expected child.

The food one eats on a daily basis affects how ones bodies work, how one heals and grows, how she maintains energy and strength for years. It determines the basic nutritional health that children are born with and provides model for their eating habits during childhood and beyond. Pregnancy is the one time in ones life when your eating habits affect another person. The pregnant women's decision to incorporate delicious vegetables, whole grains and legumes, lean proteins and food choices into their eating adherence before and during pregnancy will give the baby a strong start in life.

The researchers observed that majority of pregnant women in Ado-Ekiti, Nigeria appear to have problem with the food they take during pregnancy. Majority of them appear to be ignorant of the food they are supposed to take during pregnancy. A lot of them are impoverished and unable to secure their best food. Many of them apart from not being amenable to counseling which make them to be ignorant of the nutritional requirements. This may be accountable for their state of undernourishment during pregnancy. This seems to be responsible for the ill-health or most of the malformation in children experienced after pregnancy delivery.

It is rather unfortunate that despite the provision of health care providers to pregnant women by the United States Department of Agriculture (USDA) Food Guide Pyramid to counsel and encourage their clients to consume food that meet the nutritional requirements of pregnancy and was used extensively in education materials on nutrition. Women were encouraged to eat daily 3 servings of milk 3 types of fruits, four periods of eating vegetables in order to meet the nutritional requirements of pregnancy. Fowles (2000), reported that pregnant women readily consumed 6 to 12 servings per day from the bread group and at least three servings of meat per day.

It is rather unfortunate that in Ekiti State pregnant women may be because of carelessness, ignorance, poverty, lack of education, misplacement of priority consume low status diets which lead to ill-health and malformation during and after pregnancy. The lack of adequate data by the Ekiti State Government indicating a food guide for the majority pregnant women is another bane to adherence to nutrition by the Nigeria pregnant women. In 2005, the USDA released a revised edition of Dietary Guidelines for Americans (USDA, 2005a) .The revision emerged as an attempt to reduce the increased rate of obesity by encouraging consumers to eat more healthfully and control their weight. The guidelines focused on adequate nutrients within calorie needs weight management physical activity, food groups to encourage fats, carbohydrates, sodium and potassium, alcoholic beverages. The document in fact, outlined specific recommendations for specific population like children, people over 50 years old, pregnant and breastfeeding women.

2. Research Rationale

The researchers observed the tenacity of problems faced by pregnant women in Ado-Ekiti. It appears as if the level of education impacts on the Nutritional adherence by pregnant women it seems as if women in pregnancy state go through the stage in agony this could be due to the fact that certain factors such as education social status socio-cultural factors appears to impinge on the health status of pregnant women in Ado-Ekiti local government area. Majority of the pregnant women appears not to be prepared for the chores of marriage. They marry very early with little or no education. A lot of the pregnant women interviewed appears to be ignorant of the supposed nourishment to take during pregnancy and a lot without where withal to face the afore mentioned has prompted to raise questions such as (1) will the demographic variables influence the nutritional adherence of pregnant women (2) will there be any relationship between the level of education of pregnant of women and nutritional adherence.

3. Methodology

The researchers employed descriptive research design of the survey type. The population consisted of all the pregnant women in Ado-Ekiti local Government area. A questionnaire titled "Education and Nutrition of Pregnant Women" was used for collecting data. A sample of 100 respondents (pregnant women) was chosen through purposive sampling technique. The face and content validities of the instrument were investigated and ensured by health care practitioners and nutrition specialists. The test-retest reliability of the instrument was carried out by subjecting it to respondents that are not part of the original sample. This was administered on 20 respondents and on 2 occasions of two weeks interval. A reliability coefficient of 0.72 was obtained and found significant at 0.05 level of significance .The instrument was personally administered by the researcher. The data generated were analyzed using descriptive and inferential statistics.
Question 1: Will the demographic variables influence respondents adherence to nutrition?

Descriptive analysis showing influence of demographic variables on nutrition adherence.

Demographic Variables	*Grouping*	*Frequency*	*Percentage*
Age	22-34	92	92.0
	35 and above	8	8.0
Level of Education	Primary, Secondary OND/NCE HND/BSc/Ed MSc/PhD Others	4 12 18 59 4 3	4 12.0 18.0 59.0 4 3
Religion	Christianity Muslim Others	87 11 2	87.0 11.0 2.0
Type of Family	Monogamy Polygamy	89 11	89.0 11.0

Table 1 shows that 92 (92%) of the respondents falls between 22-34 years while 8(8%) of the respondents are above the age of 35 years, 4(4%) of the respondents had primary school leaving certificate, 12(12%) are school certificate holders. 18(18%) respondents had ordinary National Diploma and National Certificate of Education, while 59(59%) of the respondents are Higher National Diploma, Bachelor of Education, Bachelor of Arts degree. 4(4%) had MSc/PhD holders while 3(3%) possess qualifications that differs from the list. The analysis of religion shows that 87(87%) of the respondents are Christians while 11(11%) respondents are Muslims. There are 89(89%) monogamous and 11(11%) polygamists that participated in the Study.

Hypothesis: There would be no significant relationship between the level of education of pregnant women and adherence to nutrition

Table 2: Chi Square (x^2) Analysis of level of education and adherence to nutrition by pregnant women

SN	*Variables*	*Response*		*df*	X^2	X^2 *tab*
		Yes	*No*			
1	Educational level/Nutritional adherence	77	23	1	29.160	3.84
2	Adequacy of Nutrition	92	8	1	70.560	3.84
3	Necessity of Nutrition/Education	31	69	1	14.440	3.84
4	Knowledge of good Nutrition	34	66	1	10.240	3.84
5	Eating Pattern	26	74	1	23.040	3.84

The table shows that 77(77%) of respondents agreed that the level of education determines the nutrition while 23 respondents disagreed 92(92%) of the respondents agreed adequate nutrition is required during pregnancy while 8(8%) disagreed 31(31%) of the respondents agreed that there is necessity for nutrition during pregnancy while 69(69%) of the respondents disagreed 34(34%).

Of the respondents agreed that the knowledge of nutrition during pregnancy is necessary while 66(66%) disagreed 26(26%) of the respondents agreed that they eat anything during pregnancy while 74(74%) of the respondents patterned than food during pregnancy.

The result of Chi square analysis shows that X^2 calculated is greater than X^2table (3.84) at 0.05 level of significance. 29.160>3.84, 70.560>3.84, 14.440>3.84, 10.24>3.84, 23.040>3.84. The null hypothesis that states that there would be no significant relationship between the level of education of pregnant women and adherence to nutrition is therefore rejected. It implies that there would be significant relationship between nutrition adherence and education.

4. Result

The result of the Analysis shows that demographic variables such as age, level of education and type of family imparts on nutritional adherence by pregnant women. It was also revealed that there are significant relationship between educational attainment of pregnant women and their nutrition intake.

5. Discussion

The result of the data analysis showed that there is significant relationship between the level of education of pregnant women and nutritional adherence. The study is in agreement with Bairaga (1980) that there is significant relationship between child nutrition and factors such as family income, maternal education and birth order. He also found that income was not the only constraint on nutritional status even in the lower income group. Maternal education had a significant influence on nutritional status as did the child's sex and birth order.

6. Recommendations

Based on the findings the curriculum planner should incorporate maternal education into the school curriculum. Teachers will be able to teach boys, girls, men and women the necessity to know and adhere to nourishment and nutrition that will enable women to go through the stage of pregnancy with reduced problem. Also the state government should constitute medical team that will enhance provision of nutrition guide and that will employ educators and counselors that will orientate the pregnant women about the necessity to adhere to nutrition during pregnancy. The maternity centers should be made to give adequate orientation to pregnant women on the necessity to adhere to good nutrition. Nigerian government should have food guide which must be in mother tongues and should ensure that nutrition education is provided to all pregnant, postpartum and breastfeeding women. This can be an extension to school curriculum in order to prepare the students for this inevitable future. The government should provide training to persons providing nutrition education.

References

Bairagi, R. (1980). Is income the only constraint on child nutrition in rural Bangladesh? *Bulletin of the World Health Organisation*.

Blount, D. (2005). Growing a baby diet and nutrition in pregnancy. *The Birkit*. 46.

Carmicheal, S. & Abram, B. A. (1997). Critical review of the relationship between gestational weight gain and preterm delivery obstetrics and gynecology. 89(5): 865-873. (PubMed).

Das, D. J. (1975). An indirect approach to study the inter-relationship between infant mortality and fertility. *Demography India*. 4: 449—456.

Das, Gupta, M. (1998). Selective discrimination against female children in rural Punjah. *India Population and Development Review*. 13: 77—100.

Fowles, E. (2000). Comparing pregnant women's nutritional knowledge to their actual dietary intake. *MCN: The American Journal of Maternal/Child Nursing*. 27: 171—177.

Ghosh, S.; Bhargava, S. K. & Moriyama, I. M. (1982). Longitudinal study of the survival and outcome of a birth cohort. Report of Phase I of a reseach project, Saf Darjung Hospital, New Delhi.

Levinson, F. J. (1974). Momela: An economic analysis of malnutrition among young children in rural India. In *Cornell-MIT International Nutrition Policy Series*. Cambridge: Mass.

McNeil, G. (1984). Energy under-nutrition in adults in rural South India. Progress Report to Finding; Agences Mimeo.

Sen, A. & Sengupta, S. (1983). Malnutrition in rural children and the sex bias. *Economic and Political Weekly*; XVIII: 855—864.

Siega-Riz, A.; Adam, L. & Hobel, C. (1996). Maternal under-weight status and inadequate rate of weight gain during the third trimester of pregnancy increase the risk of preterm delivery. *Journal of Nutrition*. 126:146—153. (Pub Med).

Smith, G. (2004). First trimester origins of fetal growth impairment *Seminars in Perinatology*. 284150 (Pub Med).

Srivas-Tav, J. N. (1986). Factors in female age at marriage in India with special reference to literacy status. Interstate Analysis for 1981 demography; India. 15: 228—238.

Rowland, M. J. (2002). Geography: An assessment of implications for the development of Australian indigenous. Plant processing technologies. *Australian Aboriginal Studies*. 51—66.

Wiley, A. S. & Katz, S. H. (1998). Geography in pregnancy: A test of a hypnosis. *Current Anthropology*. 39: 532—545.