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NUTRITIONAL KNOWLEDGE, ATTITUDE AND INFANT FEEDING CARE PRACTICES OF NURSING MOTHERS IN ONITSHA EDUCATION ZONE: IMPLICATIONS FOR SECONDARY SCHOOL TEACHING OF BIOLOGY AND HEALTH EDUCATION

by

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Abstract

Good nutrition is essential for all, most especially for infants, as their growth rate is determined by the quality of nutrition they receive during this period. Inadequate, nutrition affects child's growth and development in all its ramification. Since infants depend on their mothers principally for good nutrition, this study examined the nutritional knowledge, attitude and infants' feeding care practices of nursing mothers in Onitsha. The study adopted cross-sectional descriptive study design. Five hundred (500) nursing mothers attending postnatal and immunization clinics at selected Hospital in Onitsha participated in the study. This was a sample from a population of five thousand two hundred and fifteen (5,215). Self-employed and validated questionnaire and oral interview were used to collect data computation of Pearson, product moment co-efficient of reliability on testing result with two weeks interval gave 0.72. Frequency count, percentages, chi-square (x^2), ANOVA and post- hoc were the statistical tools used. The study revealed that there is significant knowledge, positive, attitude and adequate infant feeding care practices of the participants. However, in a comparative analysis, better educational level positively affects mother's nutritional knowledge and attitude. Mother's low economic status affects their nutritional attitude and practices negatively. The researchers recommend among others that appropriate health education be given to nursing mothers for them to have positive attitude, and good health practices that will promote adequate nutrition of their children. Secondary school biology and health education teachers should emphasize this in lessons on reproduction and related subject matter like puberty, family life promotions.

Keyword: Attitude, Care Practices, Infant Feeding, nutritional Knowledge, Nursing Mothers

Introduction

Good nutrition is a significant factor in determining health status and longevity. Children need good nutrition for healthy development and sound foundation for healthy life. Harriet (2000) noted that nutrition is the process by which a living organism receive,, and makes use of certain substances that are necessary to its life and good health. Immutable nutrition is science of food and its relation to health. Hence, general well-being of man depends on good nutrition. Parents need to meet infants' and children's nutritional needs to build their tissues, for the good health.

Hodges (2001) studies have shown that women who were stunted in childhood are more likely to give birth to low birth weight (LBW) babies, and micronutrients deficiencies have been implicated in the incidence of blindness, due to vitamin A deficiency and mental retardation arising from iodine deficiency for thyroid hormone synthesis. Zinc, also an essential micronutrient, is required for tissue growth, including protein synthesis. It plays significant key in hormonal body defence systems. Vitamin A deficiency of zinc has been reported to rank among the top ten causes of death in developing countries (WHO,2002).

There is therefore the need to find solution to the immediate underlying causes of the poor state of infant and pre-school child nutrition. In fact, growth and development of children must be improved if the World Health Organization's target of less than 20 percent stunting prevalence is to be achieved by this region in 2020. Akinyele, (2005) observed that these are now being scientifically addressed.

The nutritional needs of infants vary from those of adults in Africa the growth roles of most infants and pre-school children have not been at the optimum due to poor feeding practices. Use of low nutrient food is a fundamental issue. Secondary school teachers of biology and health have important roles to play in their classroom today. This study therefore has its objective to ascertain the nutritional knowledge, attitude and infants feeding care practices of nursing mothers in Onitsha.

Research Question

1. What proportions of nursing mothers are knowledgeable about their nutritional needs?
2. What proportions of nursing mothers in different levels of education and social status are knowledgeable about their nutritional needs?
3. What proportion of nursing mothers have positive attitude towards their nutritional needs?
4. What proportions of nursing mothers have hygienic practices of nutrition and infant care?

Hypotheses

1. There is no significant difference in mean ratings on knowledge, attitude and practice of nursing mothers regarding nutrition and infant care.
2. There is no significant difference in mean ratings on knowledge, attitude and practice of nutrition and infant care among nursing mothers on basis of educational level.
3. There is no significant difference in mean ratings on knowledge, of institutional care and attitude of nursing mothers towards their nutritional care on basis of educational level
4. There is no significant difference in mean ratings on nutritional knowledge, attitude and infant care practice on basis of social status.

Method

Cross-sectional descriptive research design was used for the study. This design was considered appropriate for the study because it involved the description of a situation as it is in the natural setting.

The design described the characteristics and behavior as they exist in their natural setting (Nworgu, 1991). The accessible population for the study consisted 5,215 of nursing mothers accessing postnatal care and immunization services in health care facilities owned by Anambra State government in Onitsha within 2016. These health care facilities were General Hospital, Boromeo hospital, waterside, lyienu, and Christ the Kings Memorial Children Hospital. A purposeful sample of 500 nursing mothers was used. A distribution of

participants was 100 from Schooi of Health, General hospital, water side, lyienu and Christ the Kings Memorial Children Hospital, that is, 20 percent (100) from each. The study participants had babies between 0-2 years of age at the time of the study in 2016.
The main instrument used for data collection was responses elicited from a self-developed structured validated questionnaire 5,215 copies were administered but 500 (91.5%) were found good enough for data analysis. The questionnaire was in three sections. Section A was on demographic data while sections B and C were on items testing study participants. Focus group discussions were also used to elicit relevant information. The instrument was validated by two Medical directors and three Health Educators at General Hospital Onitsha and Nnewi respectively. Their corrections were well considered and effected as due.

Reliability of the instrument was established by exposing the structured questionnaire twice for reliability using test-retest method. Ten nursing mothers from teaching hospital Nnewi were used for test-re-test. After fourteen days a test-retest with the same but fresh copies of the instrument were made. Pearson Product Movement co-efficient of reliability (r) was statistical tool used to analyze the data from the two tests and 0.72 was obtained for r.

Data collection was done by the principal investigator and five trained research assistant. Completed questionnaires were collected and analyzed, using descriptive statistics of frequency counts and percentages inferential statistics of chi-square 4^2 and analysis of variance (ANOVA) were used to test the hypothesis and $P<0.05$ for statistical significance.

Demographic Data

The educational qualifications of participants were as follows: 24 of the respondents (4.8%) had no formal education, 53 (10.69%) had only Primary School Leaving Certificate, 43 (8.6%) had the Junior Secondary School Certificate (JSSC), while 113 (22.6%) had Senior Secondary School Certificate. Interestingly, over half of the respondents (267/53.4%) had post-secondary school education; this implied that the majority of the respondents (76%) had at least secondary school education, while well over 50 percent had higher education. The age range of respondents was between 15 and 46 years, with the majority (36.2%) between 21 and 25 years.

Majority of the respondents (90.4%) were married, 4.8% were single, while 4.4 percent and 0.4 percent were separated or divorced respectively. The income of respondents ranged between <=N5,000.00 and just over N 35,000 per less than N5,000 while 27.4 percent had monthly incomes of between N5,000 and N9,000. Furthermore, 12.2 percent had monthly incomes of between N10,000 and N14,000. The remaining respondents (25.2%) had monthly incomes of between N15,000 and >N35,000.

About a marginal majority 61.8 percent of the respondent had between one and two children, 31.2 percent had between three and four children, while 7.0 percent had between five and six.

Table 1: Chi-square analysis of nursing mothers' knowledge, attitude and infants feeding care Practices

A	**Knowledge of nutritional needs of infants**						
	Responses	**F**	%	**Chi-square Value**	**Table value of x^2**	**Df**	**Remark**
	No	**82**	**4.1**				
	Yes	**1918**	**95.9**	**1325.400**	**3.84**	**1**	Significant
	Total	**200**	**100.0**				

B	**Attitude towards nutritional needs of infants**						
	Responses	**F**	**%**	**Chi-square Value**	**Table value of x^2**	**Df**	**Remark**
	Strongly disagree	371	24.7	51.516	7.81	3	Significant
	Disagree	316	21.1				
	Agree	395	26.3				
	Strongly Agree	418	27.9				
	Total	1500	100.0				

C	**Practice of hygienic handling of infants feeds**						
	Responses	**F**	**%**	**Chi-square Value**	**Table of x2**	**Df**	**Remark**
	Strongly disagree	440	22.0	51.516	7.81	3	Significant
	Disagree	423	21.2				
	Agree	627	31.4				
	Strongly Agree	510	25.5				
	Total	2000	100.0				

Table 2A: Analysis of variance (ANOVA) on the levelof education on nutritional knowledge, attitude and practice.

A	**Knowledge**						
	sources of variance	**Sum of square**	**df**	**Mean square**	**F**	**Sig**	**Remark**
	Between groups	3.773	7	.539	7.07	.666	Not significant
	Within groups	372.867	489	.763			
	Total	**376.867**	**496**				

B	Attitude						
	sources of variance	**Sum of square**	**Df**	**Mean square**	**F**	**Sig**	**Remark**
	Between groups	**597.694**	**7**	**85.385**	**3.495**	**.001**	**Significant**
	Within groups	**11006.005**	**491**	**24.432**			
	Total	**12593.699**	**498**				

C	Practice						
	sources of variance	**Sum of square**	**Df**	**Mean square**	**F**	**Sig**	**Remark**
	Between groups	443.999	7	63.428			Significant
	Within groups	7445.679	498	15.136	4.191	.000	
	Total	**7890.678**	**499**				

Table 2B: Post-hoc (Scheffe) on educational level of mothers on knowledge and attitude of nutritional care

Department Variable	**(l)Educational Qualification**	**(J)Educational Qualification**	**Significance**	**Remark**
Knowledge of Nutritional Care	No formal schooling	Primary school JSS, SSCE Above secondary school	**.75** **.049** **.163** **.075**	Not Significant Significant Not significant Not Significant
	Primary school	No formal schooling JSS SSCE	**.745** **.319** **.746**	Not Significant Not

		Above secondary school	**.485**	significant Not significant Not Significant
	JSSE	No formal schooling SSCE Above Secondary School	**.049** **.319** **.842** **.907**	Significant Not Significant Not significant Not Significant
	SSCE	No primary schooling Primary school JSS Above Secondary School	**.163** **..746** **.842** **.907**	Not Significant Not Significant Not significant Not Significant
	Above Secondary School	No formal Schooling Primary school JSS SSCE	**.075** **.485** **.907** **.996**	Not Significant Not significant Not significant

Attitude towards nutritional Care	No formal schooling	Primary school JSS SSCE Above Secondary School	.664 .999 .574 .088	Not Significant Significant Not significant Not Significant
	Primary school	No formal schooling JSS SSCE	.664 .300 1.000	Not- Significant Not

		Above Secondary School	.682	Significant Not significant Not Significant
•	JSSE	No formal Schooling Primary school SSCE Above secondary school	.999 .300 .168 .002	Significant Not Significant Not significant Not. Significant
	SSCE	No primary schooling Primary school JSS Above Secondary School	.574 1.000 .168 .002	Not Significant Not significant. Not significant Not Significant
	Above Secondary School	No formal schooling Primary school JSS SSCE	.088 .682 .002 .404	Not Significant Not significant Not significant Not Significant

Table 3A: ANOVA on influence of social status on nutritional knowledge, attitude and practice

A	**Knowledge**						
	sources of variance	**Sum of square**	**df**	**Mean square**	**F**	**Sig**	**Remark**
	Between groups	3.773	7	.539	7.07	.666	Not Significant
	Within groups	372.867	489	.763			
	Total	**376.640**	**496**				

B	**Attitude**						
	sources of variance	**Sum of square**	**df**	**Mean square**	**F**	**Sig**	**Remark**
	Between groups	597.694	7	85.385	3.495	.001	Significant
	Within groups	11996.005	491	24.432			
	Total	**12593.6999**	**498**				
C	**Practice**						
	sources of variance	Sum of square	Df	Mean square	F	Sig	Remark
	Between groups	443.999	7	63.428	4.191	.000	Significant
	Within groups	7446.679	498	15.136			
	Total	7890.678	499				

Table 3B: Post-hoc (Scheffe) on mother's occupational status on nutritional attitude and practice

Department variable	**(i) Occupation**	**(j) Occupation**	**Sig.**	**Remark**
Attitude to Nutritional -Care	Less than N5,000.00	N5,000-N9,000 N10,000-N14,000 N15,000-N19,000 N20,000-N24,000 N25,000-N29,000 N30,000-N34,000 N35,000-and above	.051 .759 .103 .601 1,000 .999 .355	Significant Not significant
	N5,000.00-N9,000.00	Less than N5,000 N10,000-N14,000	.051 .999	Significant Not significant
		N15,000-N19,000 N20,000-N24,000 N25,000-N29,000 N30,000-N34,000 N35,000-and above	.999 1,000 .995 1,000 .999	
	N10,000.00-N14,000.00	Less than N5,000 N5,000-N9,000 N15,000-N19,000 N20,000-N24,000	.759 .999 .971 .999	Not significant - - -

		N25,000-N29,000	1.000	-
		N30,000-N34,000	1.000	-
		N35,000-and above	.982	-
	N15,000:00-N9,000:00	Less than N5,000	.103	Not significant
		N5,000-N9,000	.099	-
		N10,000-N14,000	.971	-
		N20,000-N24,000	1.000	-
		N25,000-N29,000	.972	-
		N30,000-N34,000	.998	-
		N35,000-and above	1.000	-
	N20,000;00-N24,000:00	Less than N5,000	.601	Not significant
		N5,000-N9,000	1.000	-
		N10,000-N14,000	.999	-
		N20,000-N24,000	1.000	-
		N25,000-N29,000	.999	-
		N30,000-N34,000	1.000	-
		N35,000-and above	1.000	-
	N25,000;00-N29,000:00	Less than N5,000	1.000	Not significant
		N5,000-N9,000	.995	-
		N10,000-N14,000	1.000	-
		N15,000-N19,000	.972	-
		N20,000-N24,000	.996	-
		N30,000-N34,000	1.000	-
		N35,000-and above	.973	-
	N30,000;00-N34,000:00	Less than N5,000	1.000	Not significant
		N5,000-N9,000	1.000	-
		N10,000-N14,000	1.000	-
		N15,000-N19,000	.998	-
		N25,000-N29,000	1.000	-
		N35,000-and above	1.000	-
	N35,000;00-and above	Less than N5,000	.335	Not significant
		N5,000-N9,000	.999	-
		N10,000-N14,000	.982	-
		N15,000-N19,000	1.000	-
		N20,000-N24,000	1.000	-
		N25,000-N29,000	.973	-
		N30,000-and above	.997	-

Practice of nutritional care	Less than N5,000:00	N5,000-N9,000 N10,000-N14,000 N15,000-N19,000 N20,000-N24,000 N25,000-N29,000 N30,000-N34,000 N35,000 and above	.004 .913 .701 .060 1.000 .975 .788	Significant Not significant
	N5,000:00-N 9,000:00	Less N5,000 N10,000-N 14,000 N15,000-N19,000 N20,000-N24,000 N25,000-N29,000 N30,000-N34,000 N35.000 and above	.004 .849 .991 .993 .987 1.000 1.000	Significant Not significant - - - - -
	N10,000:00-N14,000:00	Less than N5,000 N10,000-N14,000 N15,000-N19,000 N20,000-N24,000 N25,000-N29,000 N30,000-N34,000 N35.000 and above	.913 .894 1.000 .676 1.000 1.000 .999	Not significant - - - - - -
	N15,000:00-N9,000:00	Less than N5,000 N5,000-N9,000 N10,000-N14,000 N20,000-N24,000 N25,000-N29,000 N30,000-N34,000 N35,000 and above	.701 .991 1.000 .898 1.000 1.000 1.000	Not significant - - - - - -
	N20,000:00-N24,000:00	Less than N5,000 N5,000-N9,000 N10,000-N14,000 N20,000-N24,000 N25,000-N29,000 N30,000-N34,000 N35,000 and above	.060 .993 .676 .898 .909 .998 .987	Not significant - - - - - -
	N25,000:00-N29,000:00	Less than N5,000 N5,000-N9,000 N10,000-N14,000 N15,000-N19,000	1.000 .987 1.000 1.000	Not significant - - -

		N20,000-N24,000	.909	-
		N30,000-N34/000	1.000	-
	*	N35.000 and above	.999	-
	N30,000:00-N34,000:00	Less than N5,000	.975	Not significant
		N5,000-N9,000	1.000	-
		N10,000-N14,000	1.000	-
		N15,000-N19,000	1.000	-
		N20,000-N24,000	.998	
		N25,000-N29,000 N35,000 and above	1.000 .999	
	N35,000:00and above	Less than N5,000	.788.	Not significant
		N5,000-N9,000	1.000	-
		N10,000-N14,000	.999	-
		N15,000-N19,000	1.000	-
		N20,000-N24,000	.987	-
		N25,000-N29,000	.999	-
		N30,000-N34,000	1.000	-

Discussion

The major thrust of this study was to investigate nutritional knowledge with the implication for teaching biology and health education in Secondary Schools, attitude and infant feeding care practices of nursing mothers in Onitsha with the implication for teaching biology and health education in secondary schools. The null hypothesis nursing mothers will not have significant knowledge about nutritional needs of infants was rejected. Oral focus group discussion with mothers on nutritional benefits to infants revealed high level of knowledge of health benefits of good nutrition. Several investigators have expressed concern about mothers giving birth to offspring or subjecting their babies to inadequate physical and mental development, owing to insufficient knowledge about optimal infant nutritional needs of their infants (Moronkola, 2003). It is noteworthy that this observation is inconsistent with the prevalence of nutritional problems among infants in Nigeria. Two explanations are possible here: it is either that the study participants were insincere or that they indeed had adequate knowledge but lacked the financial means to put this knowledge to practice. The second postulation appears logical in that well over 60 percent of participants had a monthly income of less than N10,000 per month (that is, between N5,000 and N9,000). The investigation on mothers' attitude on nutritional needs of their infants has a positive outcome.

However, a critical examination showed that many mothers lack sufficient understanding of the right attitude to infant nutrition. This implies that health education is required to bridge the gap in the understanding of infant nutrition and the inculcation of the right attitude, including being empowered to give high priority to infant's feeding to enable them to achieve optimal physical and mental development. American Nutrition Society (2002), in a research on productivity, agreed that food facilitates nation building; hence

well-fed children will become good nation builders.

Goodman and Gutheridgh (2002) documented that the role of good nutritional in improving maternal and child health goes beyond the stage of pregnancy. Since children are the most vulnerable members of the society, preventing their deaths, improving their health and survival rate should go hand in hand with the promotion of safe motherhood.

Furthermore, it is noteworthy that since 43 percent disagreed and 57 percent agreed with the concept of hygienic handling of infants' feeds, many mothers still practice relatively poor hygienic, and indication that there is still a very high proportion of mothers with wrong techniques of infant feeds handling. This probably explains why many children are still brought to the hospital with gastro-intestinal infections or disorders. This appears consistent with the observation of the investigations; that there is still high prevalence of a large number of mothers still practicing poor hygiene. This implies that health education should be intensified in the area of food hygiene.

Examination of the level of education on nutritional knowledge, attitude and infant feeding showed positive results. This is not surprising as the level of education should enhance the understanding of benefits of nutritional principles and practice of the ideal weaning feed. This finding is consistent with that of Akinyele (2005)., who believed that women's level of education has a major impact on child growth and development, and that this has to be addressed if child malnutrition is to be curbed.

This finding is also consistent with that of the Population Reference Bureau (2004),k which stated that education helps to reduce health inequalities and malnutrition, as it enables people to obtain safer jobs, have better health literacy embrace preventive healthcare measures, avoid riskier health behavior and demand more and better quality health services. This, therefore, makes it imperative to raise women's education level so that knowledge of childcare can be optimized. Higher level of education will help mothers develop a more positive attitude to the nutritional needs of their infants. Inadequate education can have a negative effect on mothers' feeding habits, which will culminate in poor infant nutritional status. This may, in part, explain our observation during the focus group discussion with nursing mothers, in which we learnt that many of their infants were suffering from communicable (or infectious) diseases, such as diarrhea, gastroenteritis.

Examination of nutritional knowledge, attitude and infants feeding care practices and socioeconomic status of mothers showed that there was no significant difference between socioeconomic status and nutritional knowledge. This observation implies that the socioeconomic status of mothers does not significantly affect their nutritional knowledge. This may also imply that nutritional knowledge is a variable that is mostly influenced by education.

The post-hoc analysis showed that mothers' nutritional attitude was among mothers who earned less than 145,000 a month and those who earned between 145,000 and 149,000 monthly. This group of mothers fell into the lowest income group; it is not surprising that there is a significant difference in their nutritional attitudes, as this affects the availability of money for adequate feeding of their children. This observation corroborates the report of Akinyele (2005) who showed that the socioeconomic situation of households occupies an important position in the decision making process of families on food provision for children.

However, examination of influence of socioeconomic status on infant feeding care practices revealed a significant difference between infant feeding care practices and socioeconomic status. Post-hoc analysis showed that the difference was between mothers who earned less than 145,000 and 145,000 - 149,000 monthly. These data appear to confirm that low socio-economic status grossly affects the quality of care children receive.

The findings appear to corroborate the stand of Goleman (1988) that improvement of socioeconomic status of the principal childcare takers, who are mostly mothers, goes a long way to improving the nutritional status of children.

Summary, Conclusion and Recommendations

The outcome of this study shows that nursing mothers in Onitsha have reasonably adequate nutritional knowledge; attitude and infants' feeding care practices. The findings also revealed that education influences mothers' nutritional attitude and infants' feeding care practice of infant feeding.

The data also showed that an improvement in women's education and socioeconomic status will improve their attitude and practice of ideal infant feeding. It is thus recommended that the government vigorously pursue women's education in Nigeria, physical and mental development of their children, and thus ensure the optimum health of future generations. It is also recommended that there be appropriate health education on infant nutrition and other health issues for women to take care of their children.

Invariably the nutritional knowledge, attitude and infant teaching care practices of nursing mothers in Onitsha Education zone is not unsatisfactory and state of art with the nursing mothers shall be improved with improvement in their levels of Education and social status. The researchers accordingly recommend that sufficient effort be geared towards education of women and upliftment of their welfare.

References

Akinyele, 1.0 (2005) ***Poverty, Malnutrition and the public Health Dilemma of Disease,*** Ibadan: Postgraduate School, University of Ibadan, Nigeria.

American Nutritional Society (2005), ***Nutritional and Productivity,*** New York: ANS Publications.

Goleman, D. (1998). ***Determinants of nutritional status of children in a rural African setting:*** the case of Chobe District, Botswana, Food and Nutrition Bulletin 1:42-45

Goodman, A. and Gutherido, A.C (2002): ***The vital link.*** Washington DC: Save the children and Population Reference Bureau.

Hodges, A. (ed) (2001). ***Children's and Women's Right in Nigeria:*** A wakeup call. Abuja: National Planning Commission, Abuja and UNICEF Nigeria.

Marks, (2000). ***Nutrition and Elementary Food Science.*** San Francisco: Tri Ocean Books.

Moronkola, O.A. (2003), ***Essays on Issues in Health.*** Ibadan: Royal People (Nig.) Ltd.

Nworgu, B.G (1991). ***Educational research.*** Ibadan: Wisdom Publisher Limited.

Orracca-Tetteh, R. (1998) ***Critical issues and interventions to improve preschool child Nutrition in Africa.*** Book of abstracts of international conference of infant and preschool child nutrition 1998 (November 18-21); Conference Centre, University of Ibadan.

Population Reference Bureau (PRB). (2004). ***The Wealth Cop in Health.*** US Agency; **(BRIDGE).**

Poskitt, E.M.E. (2005). ***Practical Paediatric Nutrition,*** London: Butterworth & Co. Publishers Ltd.

Sizer-Webb, Whitney E.N. and De Bruyne L.K. (1999). ***Health:*** Cincinnati: West Educational Publishers.

World Health Organization (WHO) (2002). The World Health Report 2002:

Reducing risks promoting health life: Geneva, Swizerland; WHO.