The Relationship between the Clinic-Based Nutrition Instruction Given to the Nursing Mothers and Their Degree of Acceptance of the Information

Nwamarah, J. U.

Department of Home Science and Nutrition, .University of Nigeria, Nsukka

Abstract

This study was designed to determine the relationship between the clinic-based nutrition instructions given to nursing mothers and their degree of acceptance of the instructions in four different hospitals in Enugu State. Questionnaires were used for data collection and 300 nursing mothers were altogether sampled. The research question was answered using the mean of the ratings, while the relationship was determined by correlating the mean ratings of the infant nutrition information given by the nurses () with the mean ratings which represent the nursing mothers' degree of acceptance of the information (ŷ). Pearsons' Product moment correlation (r) analysis was used to obtain the correlation coefficients (r). The correlation coefficient (r) values, expressing the relationship between the clinic-based infant nutrition education given to the nursing mothers and their degree of acceptance of the information given, are positive for the four hospitals.

Keywords: Relationship, Nutrition, Nursing-mothers, Acceptance, and Information

Introduction

The first few years of life of a child are highly significant with regards to laying of a good foundation for good health. World Health Organization/United Nations Education Programme (WHO/UNICEF)(1981) stated that in order for the child to attain a good health status, the nutrition of the infant, which is determined by nutritional status of the mother, is very important. In early infancy the child depends totally on the mother for survival. At this stage good feeding is fundamental to the proper growth and development of the mother to provide adequate diet for the child. Milk is the first food given to the infants in the first few months of life (World Health Organization (WHO), 2000).

There are factors that affect the infant feeding pattern. These are: mothers knowledge of nutrition, attitude/acceptance of knowledge, personality characteristics, fears and anxiety. Attitudinal change is a growth process, usually taking place over an extended period of time, and result from exposure to new attitudes and information (Action Health Incorporated (AHI) 2003). Whether feeds dense in nutrients are frequently consumed or not can depend on a host of internal and external factors in addition to nutrition knowledge and attitudes. Nutrition education is more complex than is the teaching of other subject areas. This complexity results from the need to create informed consumers who value good nutritious foods throughout their lives. Mastery of information and facts is only one small part of the overall goal of nutrition education; hence the evaluation of the program directs one to improve the impact and effectiveness of nutrition education (Nwamarah, J. U., 2001). External factors such as: cultural expectations, food availability, cost of food, advertising appeals, food popularity and a desire to be similar to peers, financial status of the family, and knowledge of infants' requirements are included. All these factors and the method of preparing infant food greatly affect the nutritional status of the child, thus if neglected, result in

malnutrition which often leads to death (WHO/UNICEF, 1981).

Malnutrition is a problem in Nigeria more so with the fallen economic standard in recent years. Malnutrition is more serious in children, combined with infection, which has caused the death of millions (WHO/UNICEF 1981). Malnutrition is responsible for retarding the growth and development of a large number of children. WHO/UNICEF (1981) pointed out that malnutrition identified, were as a result of urbanization, a new pattern of family structure, higher prices of food rich in nutrients and changes in the pattern of women's work. It was therefore, recommended that the public should be better informed about correct infant and young child feeding practices. Families of very low income levels need aids to ensure that the pregnant, lactating mothers and young children have access to the food they need such locally mixed food items like cereals, legumes, wild fruits and vegetables (WHO, 2000).

Malnutrition is the result not only of inadequate nutrition-related knowledge, skills and attitudes but also of a host of other factors, which are not likely to be influenced by nutrition education alone. Nutrition education is therefore often combined with other interventions. The impact of nutrition education therefore is codetermined by a range of contextual variables which, up till now, have mostly been ignored or treated as non-treatment variables Nestle Foundation Publication Series (NFPS, 1982).

Many nutrition education programmes have been implemented without evaluation. Perhaps they have been quite successful. The problem is that we will never know how successful they have been. We therefore do not know how we could improve on them, and perhaps we keep repeating certain errors over and over again (Schürch, 1983) most obviously, evaluation results are used to reconsider the effectiveness of the structural strategies chosen. Beyond that, evaluations usually also provide valuable information for a review and possible modification of other steps in the development process.

Schürch (1983) noted that the results of several studies have shown that increased knowledge does not always lead to changes in attitudes, and professed attitudes are not always matched by corresponding behaviours. To explain these discrepancies one has to monitor or control a number of intervening variables. Evaluation of nutrition education should not only provide information on the effectiveness of a particular program and how it could be improved, it should also tell something about the nature of nutrition education.

Objectives of study: (1) To find out the clinic-based nutrition instructions given to nursing mothers in selected hospitals in Enugu and Nsukka LGAs. (2) To determine the relationship between the clinic-based nutrition instructions given to nursing mothers and their degree of acceptance of the information.

Materials and Methods

Area of study: The area covered in this study is the Enugu and Nsukka Local Government Areas. This includes University of Nigeria Teaching Hospital (UNTH) and Mother of Christ Specialist Hospital (MCSH) all in Enugu LGA, and Bishop Shanahan Hospital (BSH) and Comprehensive Health Centre (CHC) all in Nsukka LGA.

Population: The population of this study consisted of 300 nursing mothers and 80 nurses from four chosen hospitals randomly sampled.

Instrument development for data collection: The instrument designated "Clinic-based Nutrition Instructions Received By Nursing Mothers and Their Complementary Feeding Practices in Four Hospital Clinics in Enugu State: Implications for Infant Health (0-12 months)" was developed and used for data collection of this study. This was the major instrument used.

Through consultations with the Nursing Staff and Experts in nutrition, the researcher was able to develop the basic instrument for this study.

The instrument consisted of section `A' for demographic information. Section `B' part I sought information on the degree of receptivity of each nursing mother to the infant nutrition instructions given while part II sought information on the degree of practices of such infant complementary feeding instructions. Section `C' consisted of information on anthropometric measurements of the complementary fed infants.

Validation of instrument: To ensure a high degree of validity of the instrument, five nursing staff from hospitals other than the ones used in the study and four lecturers from the department of Home Science and Nutrition were asked to validate the instrument.

Data collection technique: The instrument, which was validated, was used for the data collection. The administration and retrieval of the questionnaire were done in person by the researcher. This personal contact facilitated explanations and clarifications sought by respondents. The personal contact with the respondents also helped in persuading many respondents who showed initial reluctance in completing the questionnaire.

A total of 300 copies of the questionnaire were distributed and all were properly completed and retrieved.

Technique for data analysis: The data collected for this study with the instrument were analyzed using both descriptive and inferential statistical methods. The procedure is explained thus:

Objective one was analyzed by presenting the data obtained from the nurses' opinion; from the various hospitals where the nursing mothers received their infants' nutrition instructions mean rating on a 5-point Likert-type scale to determine each infant nutrition instructions, which were developed for the study.

Using the data obtained from the Grand mean ratings of the nurses' opinion of each infant nutrition instruction respectively, the mean ratings were obtained on a 5-point Likert-type scale.

Objective two was analyzed by determining the relationship which exists between the clinic-based infant nutrition instructions given to nursing mothers and their degree of acceptance of the information. The correlational analysis was carried out using Pearson's Product Moment Correlation (r) assuming normal distribution of p=0. The application of this correlational technique was considered appropriate for seeking relationship between two variables (infant's nutrition instruments and acceptance of the instructions) without seeking "cause and effect" associations for making prediction.

Observations within each hospital were assumed to be normal distribution.

Variances within each group were also approximately equal; and data for each hospital were independently collected and the distribution of one variable was not dependent on that of other.

Results

The clinic-based infant nutrition instructions given to the nursing mothers were determined by the mean ratings of the nurses' opinion from the various hospitals where nursing mothers receive their infant nutrition instructions. The mean opinion obtained on a 5-point Likert scale representing the clinic-based infant nutrition instructions given to the nursing mother is shown in Table 1.

Data in Table 1 show that the 22 clinic-based infant nutrition information statements formulated for this study were all given above-average ratings ($\bar{x} > 3.00$) on a 5-point Likert scale. This result shows that it was a consensus of the nurses working in a child welfare hospital that the 22 statements represent the true information required by nursing mothers on infant nutrition instructions.

The Statement No. 1 that "every healthy nursing mother can breastfeed for at least 4-6 months of baby's life", received the highest mean rating of 4.99 ± 0.03.

Table 1: Clinic-based nutrition instructions given to nursing mothers in Enugu and Nsukka LGA

S/No	Infant-complementary feeding information statement	Mean ratings ($\bar{x}$)	Standard Deviation (σn-1)	Rating position
1	Every healthy nursing mother can breastfeed for at least 4-6 months of baby's life	4.99	0.03	1st
2	Breastfeeding of infants could be continued after commencement of weaning	4.68	0.27	4th
3	Babies should not be given water before 4-6 months of life	4.43	0.09	8th
4	Infants should be introduced to weaning foods from the 4th-6th month of life	3.65	0.26	17th
5	Soya bean powder or grounded crayfish added to cereal base food is more nutritious than without	4.43	0.12	8th
6	"Piece-meal" method of introduction of feed, isolates intolerable food items	4.38	0.17	10th
7	Family menu is good for infants provided it is prepared in an acceptable form	4.38	0.2	10th
8	Infant should be given minced meat	4.3	0.31	12th
9	Some quantity of honey or sugar could be added to corn-pap of infants	3.61	0.11	18th
10	Infants whose corn pap is added egg yolk get iron	4.33	0.49	11th
11	Infants should be given washed fruits	3.86	0.13	16th
12	Soup is a good liquefying agent for baby's food	4	0.25	15th
13	Homemade weaning food could be enriched in various ways	4.4	0.29	9th
14	Red palm oil which is rich in Vit A is recommended for infants	4.28	0.36	13th
15	Oil in baby's food increases the energy-density of his food	4.01	0.46	14th
16	Feeding baby "on demand" is better than "schedule" feeding	4.65	0.18	5th
17	Mothers are not encouraged to practice forceful feeding	4.43	0.3	8th
18	In order to eradicate diarrhoea and infections, exclusive breast feeding for 4-6 months is advocated	4.73	0.33	3rd
19	Adequate immunization of babies reduces the 6-killer diseases epidemic	4.84	0.24	2nd
20	Infants receive adequate care with the advocation for family planning	4.48	0.03	7th
21	Proper food storage is a necessity for handling baby's foods	4.56	0.15	6th
22	Personal hygiene and environmental sanitation is a prelude to health infant life	4.33	0.33	11th

The Statement No. 19 that "adequate immunization of babies reduces the 6-killer diseases epidemic" had a mean rating of 4.84 ± 0.34 took the 2nd position. Followed by the Statement No. 18 that "in order to eradicate diarrhoea and infections, exclusive breastfeeding for 4-6 months is advocated" took the 3rd rating position with a mean of 4.73 ± 0.33. This agrees with the recommendation of World Health Organisation (WHO) and United Nations Children Fund (UNICEF) that exclusive breastfeeding should be continued for 6 months (180 days) 7. Some of the statements received tied mean ratings, thereby reducing the rating positions to 18. Statement No. 9 that "some quantity of honey or sugar could be added to corn-pap of infants" received the least mean rating of 3.16 ± 0.11.

The relationship was determined by correlating the mean ratings of the infant nutrition information given by the nurses ($\bar{x}$) with the mean ratings, which represent the nursing mothers' degree of acceptance of information ($\bar{y}$). Pearson's Product moment correlation (r) analysis was used to obtain the correlation coefficients (r). The (r) values obtained are represented in Table 2 according to hospitals of employment of the nurses where the nursing mothers obtained the infant nutrition instructions.

Data in Table 2 show that the correlation coefficient (r) values, expressing the relationship

between the clinic-based infant nutrition education given to the nursing mothers and their degree of acceptance of the information given, is positive for four hospitals.

Bishop Shanahan Hospital, Nsukka has the highest degree of correlation coefficient value of 0.81. This relationship could be regarded as "very strong positive" within the degree range of 0-1. University of Nigeria Teaching Hospital Enugu followed with a correlation coefficient value of 0.64. This also indicates a somewhat strong relationship. Mother of Christ Specialist Hospital Enugu yielded a correlation coefficient value of 0.5, which indicates an average positive relationship. Comprehensive Health Center Obukpa yielded the least correlation value of 0.30, which also indicates a positive relationship, but below average.

However, when the four hospitals were pooled together, the relationship between the infant nutrition education given to the nursing mothers and their degree of acceptance yielded a correlation coefficient value of 0.41. This pooled value is still positive but slightly below average.

Discussion

Using Pearson's Product of Moment Correlation (r) Analysis, it was possible to find out that the correlation coefficient (r) values, expressing the relationship between the clinic-based infant nutrition

Table 2: Correlation coefficient (r) values expressing the relationship between the nutrition instructions given to the nursing mothers and their acceptance – according to hospitals·

S/N	Hospital Base	Grand Mean Nutrition Instr. Given ($\bar{x}$)	Grand Mean Nutrition Instr. Acceptance ($\bar{y}$)	Corr. Coeff Value (r)	Remarks
1	Bishop Shanahan Hospital	4.28	3.84	0.81	Very strong positive
2	Comprehensive Health Centre	4.38	3.80	0.30	Weak positive
3	University of Nigeria Teaching Hospital	4.42	4.02	0.64	Strong positive
4	Mother of Christ Specialist Hospital	4.33	4.11	0.5	Average positive

Pooled Corr. Coeff. (r) for the 4 Hospitals = 0.41

education given to the nursing mothers and their degree of acceptance of the information given is positive for the four hospitals. This therefore shows that the infant nutrition instructions delivered by nurses to the nursing mothers influence their acceptance hence knowledge positively. There are other factors that affect the infant feeding pattern (WHO/UNICEF, 1981) mothers' knowledge of nutrition, attitude, personality, characteristics, fears, anxiety, as well as external factors, such as cultural expectations, food availability, and cost of food, advertising appeals, food popularity and a desire to be similar to peers. Also, in addition it is possible that the information gotten at the clinic base may contribute to the knowledge of the nursing mothers attending the child welfare clinic, this agrees with the survey work done by (Kassier et al., 2003), that mother, attending Prevention of Mother-to-Child Transmission (PMTCT) programme clinics were shown how to breastfeed exclusively and were more likely to have received information about infant feeding; and that a high level of antenatal clinic attendance documented for both groups serves as evidence that if utilized optimally, the clinic could serve as an ideal medium through which infant feeding education can take place. The general trend was that mothers attending PMTCT clinics were more inclined to breast feed their infants exclusively than mothers attending non-PMTCT clinics, hence a change in attitude.

Bishop Shanahan Hospital, Nsukka had the highest degree of correlation coefficient value of 0.81. This may strongly suggest that information given at the above-named hospital infant welfare center has more positive association on the mothers' acceptability/knowledge than those in three other hospitals. This could be as a result of closer rapport between nurses and mothers in order to make such an impact. The semi-urban influence may not be strongly considered because Comprehensive Health Centre, Obukpa Nsukka is also from the same Local Government Area. The citing and the catchment areas may be considered as influencing their acceptability of information. Bishop Shanahan Hospital is cited at the heart of the land, attracting mothers from the city areas and University Community while Comprehensive Health Centre is cited in a more rural area – Obukpa village, with poor accessible road hence more mothers from the village areas.

University of Nigeria Teaching Hospital Enugu has a correlation coefficient (r), which follows

the BSH. This association may be as a result of the urbanization, in which people tend to gather information to improve in their standard of living. Information may have been passed on previously by someone's neighbors or friends, which could have predisposed the individual to such an idea. Mother of Christ Specialist Hospital, Enugu has a correlation coefficient (r) value of 0.50, which indicates an average relationship. This may mean that there are other factors that may influence the acceptance of the infant nutrition instructions given to mothers such as cultural beliefs or peer influence.

The survey revealed that Comprehensive Health Centre Child Welfare base has the highest strong positive relationship with a correlation coefficient value (r) of 0.75. While in determining the relationship between the clinic-based infant weaning nutrition instructions given to the nursing mothers and their degree of acceptance of the information, CHC has a weak positive relationship. It therefore seems that whatever infant nutritional information that was acceptable to the mothers had close association to their infant complementary feeding practice. Adrien (1994) noted that while the focus of education activities is on changing individual behaviour, there has been a growing recognition that health of individuals and their health-related behaviour is the product of that individual continuous interaction with his or her environment.

What both the affluence and developing communities which suffer both over nutrition and under nutrition respectively, have in common is the need for advice and guidance on how to improve their nutritional status (Aebi, 1983). Hence the goal in developing communities is to ensure nutritional adequacy by providing sufficient amounts of all those nutrients, which are necessary for survival. The problem also, is one of optimizing the use of limited resources and thereby minimizing the risks associated with a deficient diet.

Nutrition education therefore, can only be successful to the extent that it is able to make individuals understand and follow relevant nutrition-related messages. From this point of view, the scientist who is planning and implementing a nutrition education program can be compared to a salesman. His success depends on a number of factors, some of which are well known, others of which are unknown, even irrational (Aebi, 1983).

References

Action Health Incorporated (AHI) (2003): Comprehensive sexuality education in Nigeria. Lagos, Nigeria.

Administrative Committee on Coordination: Sub-committee on Nutrition (ACC/SCN), (2000). 4th Report on the World Nutrition Situation: Nutrition Throughout the Life Cycle, Washington: International Food Policy Research Institute.

Adrien, M. (1994). Social Communication in Nutrition Methodology for intervention. Rome FAO.

Aebi, H (1983) Welcome address in: Evaluation of Nutrition Education in Third World Communities Éd. Schürch, B. A Nestlé Foundation Workshop Lutry/Lausanne September 16th –17th, 1982 Hans Huber Publishers Bern Stuttgart Reference Vienna.

Greiner, T. (2001) International recommendations: Exclusive breastfeeding for six months: Feedback on United Nations ACC/SCN Annual meeting. http://www.who.int/inf-pr-2001/en/note2001-07.html.

Kassier, S., Maunder, E. and Senekal, M (2003): An exploratory study of current infant feeding practices of mothers with 0 - 6 months old infants attending PMTCT and non-PMTCT Clinics in Central Durban. Funded by Health Systems Trust. University of Kwazulu-Natal.

Nestle Foundation Publication Series (NFPS), (1982) Introduction In: Evaluation of Nutrition Education in the Third world Communities. Ed. Schürch, B. A Nestlé Foundation Workshop Lutry/Lausanne Sept. 16th – 17th 1982. Hans Huber Publishers Bern Stuttgart Vienna.

Nwamarah, J. U. (2001): Clinical-based infant nutrition instructions received by nursing mothers and their complementary feeding practices in four hospitals in Enugu State: Implications for infant health (0-12 months). M.Sc. thesis. Dept of Home Science and Nutrition, Faculty of Agriculture, University of Nigeria, Nsukka.

Schürch, B. (1983), Introduction. In: Evaluation of Nutrition Education in the Third world Communities. Ed. Schürch, B. A Nestlé Foundation Workshop Lutry/Lausanne Sept., 16th – 17th 1982. Hans Huber Publishers Bern Stuttgart Vienna.

World health Organization, (2000): Complementary feeding: Family foods for Breastfed Children. Department of Nutrition for Health and Development. FSG Med/Media Ltd. France.

World Health Organization/United Nations Children's Education Fund, (WHO/ UNICEF) (1981): Infant and young child feeding. Current issues, Geneva.