

THE RELATIONSHIP BETWEEN THE CLINIC-BASED NUTRITION INSTRUCTIONS GIVEN TO NURSING MOTHERS AND THEIR COMPLEMENTARY FEEDING PRACTICES IN ENUGU STATE

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ABSTRACT

This study covered four different hospitals in Enugu State: University of Nigeria Teaching Hospital (UNTH), Mother of Christ Specialist Hospital (MCSH) both in Enugu and Comprehensive Health Centre (CHC), Bishop Shanahan Hospital both in Nsukka. This study ascertained the relationship between the clinic-based nutrition instructions given to the nursing mothers and their infant complementary feeding practices. Three hundred nursing mothers were randomly selected from the four hospitals. Validated questionnaires were used for data collection. There were uniformed infant nutrition instructions given to the nursing mothers by registered nurses in these selected baby-friendly hospitals. Pearson's product moment correlation (r) analysis was used to obtain the correlation coefficients (r). The study revealed that the relationship between the clinic-based infant nutrition education given to the nursing mothers and their complementary feeding practices were effective for the four hospitals but MCSH had the highest $r=0.68$ followed by UNTH $r=0.49$. The t-test result comparing the nursing mothers' infant complementary feeding practices in Enugu and Nsukka areas ($t = 2.019$) were significantly different at 5% probability level.

Key words: Nutrition instructions, complementary feeding practices, Nursing mothers

INTRODUCTION

Childhood malnutrition is a major public health problem throughout the developing world. Research conducted in a variety of settings demonstrates that post natal growth faltering begins around six months of age, just as infants begin to receive foods to complement their breast milk intake (WHO/NUT, 1995; Okeke and Okafor, 1989). Interventions to address childhood malnutrition have shown that improving complementary feeding will reduce malnutrition. However, to address malnutrition and improve complementary feeding, attention must be given to decisions taken by mothers and caregivers about complementary feeding (Bereng *et al.*, 2007). Again malnutrition as well as accelerating urbanization and commercialism, are leading to imbalances in availability of products and knowledge about nutrition. Nutrition education is an essential process for coping with these problems and issues (Jones *et al.*, 1985).

The process of nutrition education may be defined as the teaching of validated, correct nutrition knowledge in ways that promote the development and maintenance of nutritive attitude toward and actual practical habits of eating nutritious food (Jones

et al., 1985). Generally, the purpose of nutrition education is to create informed consumers who value good nutrition and consume nutritious foods throughout their lives and who subsequently pass on the information to others.

In most research evaluation studies in nutrition education one finds that knowledge, attitude and practices are the dependent or criteria's variables being measured. The foundations for this focus are strongly supported in educational theory (Jones *et al.*, 1985), and there has been some debate as to the extent that these three outcomes of nutrition education are related. Although several socio-psychological theories state that knowledge, attitudes and practice should be consistent, a number of studies indicate that their relationships are not simple or automatic (Bereng *et al.*, 2007). Sellen (2001) observed that a combination of maternal self-perception, assessment of infant well-being, and indicators of household food supply influenced the actual progression of weaning for individual children. Sellen (2001) suggested that interventions to promote exclusive breastfeeding and improve complementary feeding practices did improve rural East African pastoral populations, because they emphasized on maternal attention to infant-centered cues and addressed household-level constraints on

caregivers making decisions about young child feeding.

The relationships among knowledge, attitude and practice are more intricate than what many of the studies in nutrition education acknowledge. Practice typically has multiple causes. The view that nutrition knowledge and attitudes will determine nutrition practice over simplifies the complexity involved in food selection, preparation and consumption. Practice is almost determined by many motivations operating at the same time; therefore, nutrition-related practices are usually the result of many motivations rather than one. Most individuals value health so it is assumed that they will adopt a life style commensurate with assuring lasting health. Whether they practice a healthy life style or not would depend on internal influences such as nutrition knowledge and attitudes, personality characteristics and anxiety / depression. External factors such as cultural expectations, food availability, food cost and financial status are all contributory factors (Church, 1982). Despite the fact that the external factors have more impact on immediate practices than do internal influences, the degree to which knowledge, attitudes and practices are related has been the subject of considerable debate (Church, 1982). This study was therefore initiated to

- ascertain the relationship between the Clinic based nutrition instructions given to nursing mothers and their infant complementary feeding practices, and
- compare the clinic-based infant complementary feeding practices of nursing mothers in Nsukka to those in Enugu hospital clinics.

MATERIALS AND METHOD

The areas covered in this study included University of Nigeria Teaching Hospital (UNTH) and Mother of Christ Specialist Hospital (MCSH) all in Enugu LGA; and Comprehensive Health Centre (CHC) and Bishop Shanahan Hospital (BSH) in Nsukka LGA.

Population

The population that attended the clinics was around one thousand nursing mothers, out of which three hundred and thirty were randomly balloted for based on the clinic register. Thirty mothers dropped out later leaving three hundred nursing mothers who were used in this study.

Instrument development for data collection

The instrument designated "Clinic-based nutrition instruction received by nursing mothers and their complementary feeding practices in four hospital clinics in Enugu state: Implications for infant health (0 -12months)" was developed and used for the data collection of this study. This was the major instrument used. Through consultation with

the nursing staff and experts in nutrition, the instrument for the study was developed.

The instrument consisted of section 'A' Table 1: Uniformed instructions impacted to nursing mothers by registered nurses in the four baby-friendly hospital clinics while section 'B' sought information on the nutrition instructions given to nursing mothers and their infant complementary feeding practices.

Validity of instrument

To ensure a high degree of validity of the instrument five nursing staff from each of the four hospitals selected for the study and four lecturers from the Department of Home Science, Nutrition and Dietetics validated the instrument

Data collection technique

The administration and retrieval of the questionnaires were done by scheduled interview to facilitate explanations and clarifications sought by respondents.

Technique for data analysis

The data collected for this study were analyzed using both descriptive and inferential statistical methods. An analysis was done by determining the relationship which existed between the clinic-based infant nutrition instructions given to the nursing mothers and their infant complementary feeding practices. The variables whose relationships were sought are infant nutrition instructions and complementary feeding practices, without seeking "cause and effect" associations for making predictions.

An analysis was done by determining the difference that existed between the degree of the clinic-based complementary feeding practices of mothers in Enugu and Nsukka areas. The student t-test analysis was done at 5% probability level of significance.

RESULTS

Table 1 shows uniform infant complementary feeding instructions that were impacted to the nursing mothers in the different baby-friendly hospitals selected from Enugu and Nsukka for the study. There was emphasis on every healthy mother breastfeeding for at least 4-6months of baby's life. Mothers were instructed to get their babies immunized, to reduce the 6-killer diseases. In eradicating diarrhoea and upper respiratory tract infections, mothers were encouraged on exclusive breastfeeding. Family planning programme was advocated in order to give adequate care to babies and their siblings. Enriching the babies' cereals with soy beans powder or ground crayfish or egg yolk were advocated for, in order to produce nutritious and diversified baby complementary foods. Instructions on personal hygiene and environmental sanitation were emphasized to enhance babies'

health. The necessity to consume vitamin A was promoted by encouraging mothers to introduce palm oil into their babies' gruels. Obesity in babies was discouraged through the use of honey instead of sugar in babies' cereals or corn pap.

Table 1: Uniformed infant complementary feeding instructions impacted to the nursing mothers in Enugu and Nsukka selected Hospitals

<ul style="list-style-type: none"> • Every healthy nursing mother can breast feed for at least 4-6months of baby's life • Adequate immunization of babies reduces the 6-killer diseases. • In order to eradicate diarrhoea and upper respiratory tract infections, exclusive breast feeding for 4-6 months is advocated. • Breast feeding of infants could be continued after commencement of complementary feeding. • Feeding baby "on demand" is better than "scheduled" feeding. • Proper food storage is a necessity for handling baby's foods. • Infants receive adequate care with the advocate for Family planning. • Babies should not be given water before 4-6 months of life. • Soya beans powder or grounded crayfish added to cereal base food is more nutritious than plain. • Mothers are not encouraged to practice forceful feeding. • Home-made complementary food could be enriched in various ways. • "Piece-meal" method of introduction of feed isolates intolerable food items. • Family menu is good for infants provided it is prepared in an acceptable form. • Infants whose corn pap is enriched with egg yolk consume iron. • Personal hygiene and environmental sanitation is a prelude to healthy infant life. • Infant should be given minced meat. • Red palm oil which is rich in Vitamin A is recommended for infants. • Oil in baby's food increases the energy-density of the food. • Soup/sauce is a good liquidifying agent for baby's food. • Infants should be given washed fresh fruits. • Infants should be introduced to food discretely and isolate intolerable food items. • Some quantity of honey or sugar could be added to corn-pap of infants.

Source: Interview of senior nurses and matrons 1998

The Pearson's product moment correlation coefficient (r) value was used to determine the relationship between clinic-based infant nutrition instruction given to the nursing mothers and their infant complementary feeding practices (Table 2). Mother of Christ Specialist hospital (MCSH) had the highest correlation coefficient value of 0.68 followed by University of Nigeria Teaching hospital (UNTH) (0.49). The Comprehensive health Centre (CHC) and Bishop Shanahan hospital (BSH) had 0.08 and 0.07, respectively. When all hospitals were pooled together the correlation coefficient value was 0.56 which was above average as shown in Table 2.

Table 2: Correlation coefficient (r) values expressing the relationship between the infant nutrition instructions given to the nursing mothers and their infant complementary feeding practices

Hospital Base	Grand mean Nutrition Instruction Given	Grand mean complementary practice	Corr. Coeff. Value (r)	Remarks
Bishop Shanahan Hospital	4.28	3.61	0.07	Very weak positive
Comprehensive Health Centre	4.38	3.66	0.08	Very weak positive
University of Nigeria	4.42	3.75	0.49	Average positive
Mother of Christ Specialist Hospital	4.33	3.83	0.68	Strong positive

Pooled Correlation Coefficient(r) value for the 4 hospitals = 0.56

Table 3: Result of t-test comparing the clinic-based infant complementary feeding practices of nursing mothers in Enugu and Nsukka areas

Area of child-welfare centre hospital	Mean (\bar{x})	Standard deviation (SD)	Degree of freedom (d.f.)	Observed t value	Critical t value	Remarks (Decision)
Enugu Area	3.8	0.66	42	2.019	1.14	Significantly different
Nsukka Area	1.55	0.84				

Level of Significance: $p < 0.05$

Table 3 shows the student t-test used to determine the existence of any difference between the clinic-based infant complementary feeding practices of nursing mothers in Enugu and Nsukka areas. The result shows that Enugu had a better infant complementary feeding practice with t-test value of 3.8 ± 0.66 . While Nsukka had a lower mean of 1.55 ± 0.84 and showed a significant difference ($P < 0.05$) as shown in Table 3.

DISCUSSION

The correlation coefficient (r) values were all positive. It could be inferred that infant nutrition instructions given to the nursing mothers were positively related to their infant complementary feeding practices. MCSH had the highest value $r=0.68$ followed by UNTH with $r=0.49$ all in Enugu, thereby suggesting that nursing mothers who attended these child welfare clinics utilized the infant nutrition instructions given to them more than the nursing mothers who attended the other two clinics. The infant nutrition instructions were uniformly given by the registered nurses and these hospitals were also baby-friendly. This showed that knowledge alone does not always determine practice but is always determined by many motivations operating at the same time. There are a number of evaluations which provide credible evidence for the positive effects of education on health and nutrition practice. The factors which these evaluations have identified as contributing to successful practice change as mentioned below may have been observed by MSCH and UNTH for them to have successful practice change and high correlation values. The other two hospitals CHC and BSH must have ignored the factors hence the low correlation values of 0.08 and 0.07, respectively. The factors are as follows: active involvement of learners in identifying their own needs (Parleto *et al.*, 1982). Lee and Owen (1985), Zeitlin and Formacion (1981) noted that practice change must be seen as a process e.g. raising awareness of motivation does not automatically result in practice change. Lee and Owen (1985) and Whitehead (1979) pointed out that use of social networks by community organization and community leaders can support change. Cerqueira and Olsen (1995) on their part stated that information which allows for reasoned choice is preferable to didactic methods. Lee and Owen (1985) again stated that people are more likely to persist with actions if they find them enjoyable or rewarding. They also added that dependence on any particular place or person reduces the individual's capacity to take independent action. Therefore strategies selected to bring about practice change should be mediated by local knowledge and contexts.

The availability of trained personnel who understand and implement practice change strategies appropriately, and who can involve learners in solving their own nutrition problems is essential. To ensure a successful utilization of instructions by nursing mothers, demonstrations

should be carried out for mothers to participate in using locally available and affordable foodstuffs.

The student t-test result comparing the complementary feeding practices of Enugu and Nsukka areas showed $t=2.019$ and was significantly different $P<0.05$. The urban environment, where the hospitals with a higher mean (3.8 ± 0.66) were sited could have an influence on the nursing mothers' complementary feeding practices. The competitive attitudes in urban areas could have played a role on the nursing mothers' complementary feeding practices, as well as the use of social networks in which there could have been peer group influences (Lee and Owen, 1985). External factors such as cultural expectations, food availability, food cost and financial status are all contributory factors (Church, 1982). Additionally, influences from television and radio adverts in the urban environment including the strategies used by the nurses may have caused the differences in complementary feeding practices of the nursing mothers from the different areas.

CONCLUSION

In conclusion the clinic-based nutrition instructions given to the nursing mothers by the registered nurses had some impact on the complementary feeding practices of the mothers. Hence the positive correlation values in all the hospital clinics. Some factors or strategies may have contributed to achieving high positive results in Enugu, which needed to be incorporated by the nurses in Nsukka area, so that their instructions could have a better impact on the nursing mothers that attended their hospital clinics.

There is also the need to create more health centres for nutrition instructions to be brought closer to the grassroots. Registered nurses should also have in-service training to acquaint themselves with current issues in their profession. Such training should serve as re-orientation with emphasis on infant complementary feeding. To ensure a successful utilization of instructions by nursing mothers, demonstrations should be carried out for mothers with their participation in using locally available and affordable foodstuffs.

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