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MOTHER'S PERCEPTION OF GROWTH MONITORING AND FACTORS INFLUENCING GROWTH OF UNDER-FIVE CHILDREN IN SAGAMU, OGUN STATE, NIGERIA

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Abstract

Growth monitoring is a measure of nutritional status of children especially those of under-five children. The perception of mothers of under-five could affect the growth monitoring of their children, hence understanding their perceptions is very important. This study was carried out to assess mothers' perception of growth monitoring and factors influencing growth of under-five children in Sagamu, Ogun state. This cross-sectional descriptive study was conducted among mothers of under-five in Sagamu, Nigeria. A Multistage sampling method was used to select respondents for the study. A self-administered structured questionnaire was used for data collection. Data collected was analysed and presented in frequency/percent tables. Ethical clearance for the study was obtained from UI/UCH Ethical Review Committee. Out of 394 respondents, 246 (62.4%) were young mothers, 221 (56.1%) of their children were female. Also, 237 (60.2%) of the children were infants, 102 (25.9%) were toddlers, while 55 (14.0%) were pre-school children. Moreover, 343 (87.1%) respondents were Christians and the remaining Moslems. Furthermore, 77.2%) of the mothers strongly agreed that the growth of their children should be monitored, and 76.6% strongly agreed that mothers should be involved in growth

monitoring of their children. Their perception about growth monitoring was generally good. In addition, 248 (62.9%) of the mothers had adequate health knowledge on growth monitoring. The higher the knowledge of factors influencing child growth among mothers the better their perception towards growth monitoring. Therefore, mothers should be equipped with relevant health information to enhance healthy perception and attitudes.

Keywords: Factors, Growth, Monitoring, Mothers, Perception, Under-five, Word count: 244

Introduction

Globally, growth monitoring has been advocated for as one of the key elements of child survival and a public health strategy. It is an excellent tool for assessing the growth and development of a child in order to detect the earliest changes and bring about appropriate response to ensure that growth continues uninterrupted. In 1990 an estimated one out of three children (177 million) younger than five years in the developing world were malnourished at one stage of their lives (De Lange, 2010). The causes of childhood stunting are unknown, and strategies to improve growth and related outcomes in children have only had modest impacts. Currently, there are about 11 million children in Nigeria experiencing under nutrition with the North East and North West region accounting for the highest percentage of undernourished children(National Population Commission and ICP Macro,2013). Nigeria has also been rated as the second highest in terms of children with stunted growth owing to malnutrition (NPC and ICP Macro, 2013). Growth monitoring is the most cost-effective way to address this pressing public health issue of malnutrition and to prevent it. It involves all of the children with normal weight at birth continuing within the normal range, and those who are low weight at birth are brought swiftly into a healthy growth range. Growth monitoring and promotion should be incorporated into all health care programmes (WHO, 2007) and its practices should be improved upon among nurses in public health centre (Hendricks, Eley, &Bourne, 2006). Growth monitoring and promotion should also be promoted as community-based intervention (Labadarios et al., 2008). Methods of assessing malnutrition should identify those at risk, must be simple to apply and be internationally accepted.

In Sagamu environment and particularly when mothers bring their children to the child survival clinic, some of the children have been identified as having stunted growth, overweight or underweight. Unfortunately these mothers often fail to attend the child survival clinic for growth monitoring. Most of them have been noticed to disappear as soon they conclude the scheduled immunization despite the health education given by the nurses. Therefore, this study aims at assessing the perception of growth monitoring among mothers of under-five children in Sagamu and juxtaposing this with the factors influencing child growth. This is in an attempt to monitor the growth of children properly and prevent malnutrition in the community.

Materials and Methods

Study Design

This cross-sectional descriptive survey study was carried out among mothers of under-fives at selected communities/streets in Sagamu, Ogun State.

Population Sample and Sampling Technique

The study was conducted among mothers of children aged ≤ 5 residing in Sagamu, Ogun State who met the inclusion criteria. There are 10 political wards in Sagamu communities/town, a total of 499 streets, and an estimated population of women of reproductive age42,325.The sample size was determined using the formula of population greater than 10,000:

$$N = \frac{z^2pq}{d^2}$$ (Daniel, 2008)

where N is the minimum sample size, z, 1.96 which corresponds to a 95% confidence level, p, the prevalence of 37% (0.37) based on the prevalence of stunted growth among under-five children in Nigeria measured by Nigeria Demographic and Health Survey (NPC and ICP Macro, 2013).q = 1 – p = 0.63; d= precision level set at 5% (0.05), n = 358 . When adjusted for a probable non response of 10% (36).This becomes 394. Therefore, 394 mothers of under-five children were selected for the study.

A multistage sampling method was used to select the respondents for the study. First, a simple random sampling (balloting) was used to select 4out the existing 10 wards. Second, out of 232 streets in the selected political wards, 50 streets were then selected randomly with 18 streets from Ajaka, 20 streets from Sabo-GRA, 7 streets from Aiyegbami and 5 streets from Ijagba based on proportion. Third, Selection of houses was done through systematic random sampling technique. The average number of houses selected from each street was calculated using k = N/n. Where 'N' = Sample size (394); n = Total number of selected streets (50). Therefore, k = 394/50. Thus, k = 4. An average of 4 houses with mothers of under-five children will be conveniently selected in each selected street. The mothers was interviewed and asked to show their Growth or Road-to-Health chart if available.

Study Instruments

The instrument for the study was a self-administered structured questionnaire which has been developed following the extensive literature review, researcher's personal observations during community clinical posting and adaptation of some parts of existing questionnaires used in survey of the United States of America health care workers adapted by Kemode et al. (2005) in the survey of occupational exposure to blood, and risks of blood borne rural infection among health care workers in rural Indian health care settings. There are six (6) sections in all. Section A sought information on socio-demographic variables of the mothers; section B on the child's demographic characteristics, while section assessed the perception of mothers on growth

monitoring chart. Section D sought information on the relevant child's Health History and section E. on information on support and growth monitoring. Lastly, section Fassessed maternal knowledge and awareness of the perceived factors influencing child growth. Internal consistency was validated using Cronbach's alpha (α). The reliability co-efficient was 0.7.

Data collection and analysis

Four (4)research assistants /interviewers were trained for two days on the modalities of data collection with the questionnaire to facilitate data collection. Copies of the questionnaire were administered to all women who met the inclusion criteria. Research assistants were on ground to assist the women who could not write to complete questionnaires. The administered questionnaires were retrieved on the spot and checked for completeness. Mothers were also requested to present their children's Road to Health cards, showing immunisation status and growth charts.

Data collected was entered into statistical package for social sciences (SPSS) for window version 20. The data were analysed using both descriptive and inferential statistics. Reports were presented in texts, tables and charts.

Ethical Consideration

Ethical clearance for the study was obtained from Ogun State Ministry of Health Ethical and Research review committee. Informed consent was sought before administration of copies of the questionnaires. No invasive procedure was involved. Nobody was deceived or coerced to participate in the study. Moreover, the fact that participants could withdrawal from the study at any stage of the study was stressed. Data collected were managed with strict maintenance of anonymity and confidentiality.

Results

A total of 394 respondents were used for this study. The age of the respondents in year ranged from 16 to 63 with a mean 32 ± 6.1. Teenage, and elderly mothers were 5 (1.3%) and 143 (36.3%) respectively (see Table 1). Also, 173(43.9%) of the under-five children belonging to the women were males and the remaining were females. Besides, 343 (87.1%) were Christians, and 51 (12.9%) were Muslims. The children's ages ranged from one to 58 months; their mean age was 16 moths ± 17.3standard deviation).

Table 1: Socio-demographics of the mothers of under-five children (N = 394)

Socio-demographic information	Frequency	Percent
Age group		
Teenage mother (< 20 years)	5	1.3
Young mothers (20 – 34 years)	246	62.4
Elderly mothers (≤ 35 years)	143	36.3
Sex of the child		
Male	173	43.9
Female	221	56.1
Religion		
Christian	343	87.1
Muslim	51	12.9
Child's age group		
Infant	237	60.2
Toddler	102	25.9
Pre-school	55	14.0

Table 2 shows the varying levels of respondent perception towards growth monitoring chart. Many of the respondents showed a positive opinion towards growth monitoring chart. 21.1% agreed that growth of their children should be monitored, 77.2% of the respondents strongly agreed, 0.8% disagreed while none of the respondents is in strongly disagreed category. From Table 2, it is highly evident that more of the respondents have adequate knowledge on the factors influencing the growth of under five children.

Table 2: Perception towards and level of knowledge of child growth monitoring

Levels of Perception and Knowledge	Frequency	Percent
Level of perception		
Negative perception	136	34.5
Positive perception	258	65.5
Level of knowledge		
Inadequate Knowledge	143	36.3
Adequate knowledge	251	63.7

Table 3 reveals that 26.1% of the respondents indicated that labour was prolonged during their children's birth. Similarly, 91.4% of the respondents reported that their children cried during delivery.

Table 3: Relevant child's health history

Health information about the child	Yes (%)	No (%)
Was labour prolonged during the child birth?	103(26.1)	291(73.9)
Did your child cry?	360 (91.4)	34 (8.6)
Did the child need to be resuscitated soon after birth?	45 (11.4)	349(88.6)
Did you practice exclusive breastfeeding?	312 (79.2)	82 (20.8)
Did your child receive all the necessary vaccines?	373 (94.7)	21 (5.3)
Has your child ever lost weight?	168 (42.6)	226 (57.4)
Did your child ever have prolonged stooling?	88 (22.3)	306 (77.7)
Was your child ever admitted into hospital?	93 (23.6)	301(76.4)
Has your child started going to school?	262 (65.5)	132(33.5)

Table 4: Tasks performance per child age (months)

Age of under-five	Frequency	Valid Percent
Neck control		
< 3 months	213	3.5
3-6 months	69	0.3
> 6 months	5	10.1
Eruption of first Teeth		
< 6 months	86	29.9
6-9 months	172	59.7
> 9 months	30	10.4
Crawling		
< 6 months	72	24.7
6-9 months	207	71.1
> 9 months	12	4.1
Standing		
< 9 months	i 16	40.0
9-12 months	lul	59.2
> 12 months	5	1.8

Walking		
< 1 1 months	97	35.8
11-14 months	157	57.9
> 14 months	17	6.3
Running		
< 13 months	131	61.8
13-14 months	63	29.7
> 14 months	18	8.5

The age of the under-five children ranged between 1 and 58 months; their median age was 9 month ± 17.3 standard deviation (Table 1). Table 4 clearly indicated the number of children who were able to develop early at different stages of development and those whose development was late. The mean age for neck control was 3 months and 81.2% of the children were below the mean age and this means that they were able to control their neck early enough while about 18.8% could not. Also, the mean age for first teething was 6 months and 66.0% of the children were below the mean age and this means that they were able to have their first teething early enough while about 34.0% could not. The mean age for crawling was 6 months, the mean age for standing was 9 months, the mean age for walking was 11 months and the mean age for running was 13 months (Table 5).

Table 5: Mean age (months) at which the task were performed by the children

Child tasks	Mean age (months	Standard deviation
Neck control	1.2	1.0
Eruption of first teeth	6.6	2.3
Crawling	6.5	1.6
Standing	8.9	2.1
Walking	11.2	3.4
Running	13.3	4.0

The null hypothesis which states thus; there is no significant association between maternal knowledge and perceived factors influencing child growth of the under-five children was tested. The test of the null hypothesis shows existence of significant association between the two variables. Therefore, the null hypothesis was not rejected. Thus, the higher the knowledge of factors influencing child growth among mothers, the better their perception (Table 6).

Table 6: Association between Respondents' Knowledge of Factors influencing Growth and Their Perception

Variables Knowledge	Perception Negative (%)	Positive (%)	Chi-sq.	df	P.V.	Re-mark	Decision
Inadequate	82 (60.3)	54 (39.7)	61 (23.6)	197 (76.4)	51.74	1	0.01	S	Reject the H_0
Adequate							

Discussion of Findings

This study assessed the maternal perception of growth monitoring and evaluated factors influencing the growth of under-five children in Sagamu, Ogun State. The importance of growth monitoring of under-five children was verified during this study. Growth Monitoring and Promotion (GMP) act as a guide for mothers to determine their child's growth and take further actions if the child is outside the healthy growth range (Stevens, Finucane, Paciorek, Flaxman, White, &Donner, 2012).The actions that could be taken to bring back a child to normal healthy growth range are related, and they prevent malnutrition. It is important that mothers of under-five children understand that these actions cannot wait and thus indicating the need for a good perception towards growth monitoring. Gabriela Mistral (1948) succinctly captured this importance in her quote which implied that neglecting under-five children is the worst crime as that is the period for bone formation, blood production and development of senses.(These are just quotations; you are yet to relate these with your findings in the present study)

Socio-demographic Characteristics and Relevant Child's Health History

The mean age of the respondents was 32.This shows at a glance that the young mothers as well as the elderly mothers participated well in the current study. The total population of respondents used in this research was 394, which is smaller than that used by Owusu and Lartey (1992)in their study on mothers' interpretation of growth charts at child welfare clinics in the greater Accra region of Ghana.

This result of this study also revealed that approximately 1 out of every 4 children had late growth development. The results corroborate the work of De Lange (2010). The author observed that one out of three under-five children (in 177 million) children) in the developing world such as Nigeria were or had been malnourished at one stage in their lives.

Maternal Perception of Growth Monitoring

The result of this study showed that the mothers generally had a good perception about growth monitoring but there were slight indications of factors that negatively influence the practice of proper growth monitoring. For example, more than half of the respondents (50.7%) either agreed or strongly disagreed saw distance as a barrier to attending clinic. This views corroborates part of the findings of Owusu and Lartey (1992) in their study where distance was a

strong barrier to regular attendance of growth monitoring clinics by mothers of under-five children.. There is an insinuation that the mothers in the present study did not consider immunization as more important than growth monitoring as 88.3% either agreed or strongly agreed that attendance of child survival clinic after completion of immunization is important. This is, for most part, at variance with other findings of the authors. It was discovered in the authors' work that majority of the mothers who attended child survival clinic irregularly considered immunization more important for their child's health than growth monitoring.

Knowledge of the Factors Influencing Growth of under-five Children

The results of the present study revealed that majority of the respondents had a good knowledge of factors influencing growth of under-five children. There is significant association between respondents' knowledge of factors influencing growth and their perception towards growth monitoring. This indicates that mothers' knowledge of factors influencing growth influenced their perception towards growth monitoring (Chi-sq. = 51.74, df = 1, p.value = 0.01). Therefore, empowering of women with adequate health information should be encouraged.

Limitations of the Study

The results of this study can be generalized to all mothers of under-five children in Sagamu area. However, the study adopted only quantitative method to assess the mothers' perception towards growth monitoring whereas mixed method would have provided more information. Despite the limitation, the study provides valuable information concerning mothers' perception of growth monitoring of under-five children.

Summary and Conclusion

Base on the results of this study, mothers' knowledge of factors influencing growth positively influenced their perception towards growth monitoring. Therefore, empowering women with relevant health information should be promoted, as it fosters healthy perception.

Recommendations

Based on the results of the present study, the following recommendations are suggested:

1. There is need for increase in education for mothers of under-five children towards the importance of growth monitoring.
2. There is need for improvement in the reach of child survival clinic to solve the problem of distance identified as a factor preventing proper growth monitoring.

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