TITLE: A Critical Analysis of Young Children’s Feeding Practices in Cape Coast (Ghana)

ABSTRACT

In Ghana, malnutrition of children under the age of five has become an increasingly severe public health issue. This study highlights how parents choose to feed their children in Ghana. Seventy-two parents were recruited to participate. An open-ended questionnaire was administered to participants. The study utilized constant comparison method in data coding and analysis.  Results demonstrated that a large percentage of participants reported that foods rich in flour, corn and rice were the most common in their children’s diets. Availability and cost of food were significant factors in determining what parents fed their children.

As a result of the positive correlation between parental education level and understanding of a child’s feeding, this study will help public health professionals in moving forward with nutrition education programs geared towards parents’ feeding practices. The study recommends that professionals help parents of young children to choose the most appropriate local foods in their communities.

Keywords: Children, feeding, nutrition, malnutrition, diet, parental, educationINTRODUCTION

Among various other public health concerns, developing nations across the globe are continuously faced with nutritional deficits. In Ghana, malnutrition is of particular concern, as it plagues children throughout the country (ICF Macro, 2010; Asenso-Okyere, Asante & Nube, 1997.) Nearly 14 percent of children under five in this region are underweight, an indicator of both acute and chronic malnutrition (ICF Macro, 2010). As malnutrition can lead to a plethora of serious and chronic health complications, it is critical to understand eating patterns and practices amongst children living in Ghana (Asenso-Okyere, Asante & Nube, 1997). A comprehensive examination of food accessibility, food availability, and parental nutrition education is essential for developing effective initiatives for improving upon the health status of children in this part of the world.

Child malnutrition occurs when a child’s intake of nutrients is insufficient to sustain the needs of the body, which leads to an abundance of negative health consequences (Moussa, 2004, WHO, 2008). The two central and direct determinants of malnutrition are: 1) the inadequate quantities of food absorbed; and 2) the poor quality of the nutrients consumed (Moussa, 2004, WHO, 2008). Nutritional status is primarily measured by a child’s growth in height and weight and is directly influenced by both food intake and occurrence of infections (ICF Macro, 2010). Malnutrition appears at different levels. For example, acute malnutrition refers to wasted growth, in which a child’s weight is too low for their height. This stems from poor nutrition over a short period of time and childhood illness. Chronic malnutrition refers to stunted growth, which prevents a child’s normal growth and development and is a result of inadequate food intake over an extended duration (ICF Macro, 2010). In Ghana, over 25% of all children under the age of five suffer from stunted growth, with one in ten severely stunted, and about 10% of children under the age of five are “wasted” (ICF Macro, 2010). Overall, 14% of children under five years old are underweight, a combination of both acute and chronic malnutrition suggesting that they are too thin for their age (ICF Macro, 2010).

Child malnutrition can also lead to micronutrient deficiency conditions including iron, Vitamin A, and iodine deficiency (ICF Macro, 2010; WHO, 2015). These conditions often lead to impaired cognitive performance and an increased risk of infection and death (ICF Macro, 2010; Muller & Krawinkel, 2005; WHO, 2015). Micronutrient deficiency is amongst the most serious contributors to childhood nutritional deficits and ultimate morbidity and mortality rates (ICF Macro, 2010). Nearly four in five children aged six months to five years in Ghana are classified as anemic, meaning iron deficiency (ICF Macro, 2010; WHO, 2015). The most common cause of iron deficient anemia is poor diet quality or inadequate overall dietary intake. Infants and children have increased requirements for iron intake, making it a highlighted concern for children in Ghana as it can cause developmental delays and a variety of harmful and potentially fatal illnesses (ICF Macro, 2010; Muller & Krawinkel, 2005; WHO, 2015). Vitamin A and iron deficiencies can lead to serious health complications such as eye damage, infectious diseases, and neurological disorders (ICF Macro, 2010; Muller & Krawinkel, 2005; WHO, 2015).

In an attempt to combat these concerns, UNICEF, the WHO, and the Ghana Demographic and Health Survey provide recommendations for feeding infants and young children. It is recommended to breastfeed exclusively for the first six months followed by complimentary feeding for the first two years, providing the child with rich nutrients (ICF Macro, 2010; UNICEF, 2003; WHO, 2015). In Ghana, approximately two thirds of children under six months are exclusively breastfed, and the average duration of exclusive breastfeeding is four months long (ICF Macro, 2010). In contrast, only 41% of breastfed children and 11% of children who are not breastfed between the ages of six months and two years are fed according to all of the recommended practices (ICF Macro, 2010). It is crucial to examine the ways in which parents choose to feed their children based on a variety of factors (e.g. level of nutrition education, awareness, and perception) in correlation with parental education level and both understanding and valuing such recommendations for child feeding. Moving forward, this information will assist public health professionals to develop educational awareness programs geared towards new mothers who may lack relevant knowledge.

Research has shown that parental knowledge and perception of nutrition impact the eating patterns of their children and subsequently influence the children’s current and future health status (Appoh & Krekling, 2005). Parents shape the emergence of children’s eating patterns, not only by the foods they make accessible to their children but also by their own knowledge and attitudes of nutrition (Anzman et al., 2010). Parents with good nutritional awareness are more likely to make healthy food choices for their children (Clark, Gouder, Bissell, Blank & Peters, 2007; Vereecken & Maes, 2009). More specifically, children of mothers with no education are almost twice as likely to be stunted (chronically malnourished) as children of mothers with a secondary education or higher (ICF Macro, 2010). Parents who fail to recognize the reality of their child’s dietary intake are less likely to provide them with adequate nutritional requirements (Doolan, 2009).

The implication of early intervention is significant. Child development is momentous throughout the first few years of life, indicating a critical window to provide necessary services and adjustments in a child’s environment. As a result, intervening early with simple feeding practices may influence the life-long cognitive, social/emotional, and physical development of a child. For example, a child with acute malnutrition who is not identified and treated early in development is at increased risk for developing chronic malnutrition, and escalating from wasted to stunted growth. These conditions would subsequently open the door for more serious infections and illnesses as well as more advanced mental and intellectual delays. Thus, timely and appropriate treatment during childhood illness is a leading determinant in the long- term health and quality of life a child experiences.

METHODS

*Population Sample*

Approval to conduct this research was obtained from Indiana University Human Subject office and all participants participated voluntary. The sample size for this study consisted of residents in Cape Coast, Ghana. . Eligibility criteria for sampling in this research were at least 18 years old and a parent. Participants were recruited through a flyer and through early care providers.

*Procedure and Data Coding*

The study was conducted in the summer of 2014. Both closed and open-ended questions were used. The questions covered how long their child was nursed and at what times they introduced solid foods into the children’s diet. How many times each meal (breakfast, lunch, supper) were served, on the average, every week and the kind of food that they typically served as breakfast, lunch and supper to their children were also asked from the participants. Also asked was the kind of feeding pattern they thought would result in optimal health for children 0 to 5 years.

The survey data were entered into a spreadsheet and coded by one of the authors. The first author reviewed the responses from the survey to ensure that the eligibility criteria for the study was met. Verification of the coding, specifically, the themes were made by one of the authors.

SPSS statistical software version 22.0.was used in analyzing the quantitative data. The demographic data was arranged according to sex, age, and education and percentages were calculated for each final variable.

Thematic analyses of the verbatim responses of the participants were made on the qualitative research questions (open-ended). Constant comparative method was applied to analyze the qualitative data, in which units of the data were compared with one another to identify similarities and differences, as a method of pulling out patterns in order to generate themes (Merriam, 1998).

RESULTS

*Sample Demographics*

The study participants consisted of 72 mothers and fathers living in Cape Coast, Ghana.

The age of participants ranged from 20 to 43 years (see table 1), with a majority being female (90%). Race and ethnicity were not recorded, as study participants were all native to the Cape Coast region. Twenty-five percent (25%) reported at least some secondary education, and nearly 14% reported having an advanced graduate degree.

**Table 1. Descriptive Profile of Participants** by sex, age, and education (n=72)\*

|  |  |
| --- | --- |
| **Characteristics % (n)** | |
| **Sex** |  |
| **Males** | 9.7 (7) |
| **Females** | 90.2 (65) |
| **Age** |  |
| 20-29 | 41.6 (30) |
| 30-39 | 44.4 (32) |
| 40+ | 9.7 (7) |
|  |  |
| **Education**  Secondary (High School Diploma) 25 (18)  Tertiary (College Degree) 51.4 (37)  Graduate (Professional Degree) 13.8 (10)    *\*Missing data for sex (n= 1) age (n=3) and education (n=7)* | |

The percentages of ages at initiation of solid foods are shown in Table 2. Data revealed that 11% of all participants have children that were not exclusively breastfeed in accordance to UNICEF and the WHO recommendations. 75% of the participants stopped exclusively breastfeeding and introduced solid foods around the recommended age of six months, leaving less than 10% of participants to account for continuing with exclusive breastfeeding above and beyond the minimal recommendations.

The average number of each meal served to children on a weekly basis, including breakfast, lunch, and dinner, are shown in Table 3. Data revealed that on average, 16.7% of participants feed their young children each meal less than 7 days a week. 29% and 28% of participants do not feed their young children lunch and supper, respectively, every day of the week.

**Table 2. Age of First Solid Food**

|  |  |
| --- | --- |
| **Age % (n)** | |
| **<3 months** | 4.2 (3) |
| **3-5 months** | 11.1 (8) |
| **6-9 months** | 75 (54) |
| **>9 months** | 9.7 (7) |

**Table 3. Number of Each Meal served (Per Week)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # of Days | Breakfast % (n) | Lunch % (n) | Supper % (n) | Average % |
| 0-6 | 18.1 (13) | 29.2 (21) | 28 (20) | 16.7 |
| 7 | 79.2 (57) | 66.7 (48) | 66.7 (48) | 70.8 |

*\*Missing data for Breakfast (n= 2); Lunch (n=3); Supper (n=4)*

**Common Foods Served**

Regarding the question of what kind of food that participants serve, participants indicated that they served porridge, cereal, ‘banku’ (cooked kneaded corn), ‘fufu’ (cooked kneaded cocoyam, plantain and/or cassava), biscuits, rice, beans, yams, potatoes, stew, fruit drinks, and fish powder. Participants served several of the same foods at more than one meal or snack each day. Thus they did not report much of a variety in their children’s diets.

*Qualitative Themes*

A summary of participants’ answers to the question concerning what they think optimal health for children is, and why they were feeding their children with the kinds of foods they mentioned in the survey, are in Table 4 below:

**Table 4. Summary of qualitative answers**

|  |
| --- |
|  |
| **Optimal health**  Participants reported that optimal health for children 0-5 years consists of exclusive breastfeeding at first, followed by gradually introducing solid foods into the diet.  *“It is advisable to feed a child exclusively with breast milk from birth until 6 months, then from 6 months the child is introduced to semi solid meals and gradually develops to solid meals”*  *“Age 0-6 months breast milk only, 6-9 months breast milk, semi solid foods and fruits, 9-24 months breast milk and increased semi solid foods and fruits, 2-5 years enriched family foods and fruits”* |
| **Access Barriers**  Participants reported several barriers to accessing food in the community. Availability and cost of food were major influences on what they feed their children. Participants chose their child’s first solid food based on what was readily availability at the time and the easiness of preparation.  *“Readily available and easy to prepare”*  *“Because it’s available and cheap”*  *“It costs little and easy to get”* |

DISCUSSION

The findings from this study further support the idea that there are many factors contributing to how parents choose to feed their young children. Common influences that were found include parental knowledge of child nutrition and accessibility, availability, and affordability of food. Many of the participants are well educated and are aware of the value of overall nutrition and health, but they demonstrate limitations in understanding the specific nutritional requirements of their children. Although the participants comprehend that their children should be consuming a proper, well-balanced diet, they are not providing them with adequate combination of nutrients.

Some of the staple foods in the Ghanaian diet lack nutrients that are essential for growth and development. Common foods, such as porridge, cereal, *banku, fufu*, rice and biscuits have either a corn, rice or flour base. These options provide a fast feeling of fullness, which is important for parents with a limited budget. Unfortunately, they do not contain essential nutrients that reduce the risk of acute and chronic malnourishment, such as iron and vitamin A. Foods high in iron (e.g. dark leafy green vegetables, red meat and poultry) and foods high in vitamin A (e.g. leafy green vegetables and orange colored fruits and vegetables) are absent in the typical child’s diet in Ghana. Fish powder, beans, and fruit drinks are commonly consumed foods that contain more nutrients than other options, however, they alone do not provide enough essential nutrients to combat undernourishment and malnutrition. Several barriers exist in the Cape Coast region that prevent individuals from accessing nutrient-rich foods. Corn, rice flour, potatoes, beans and certain fruits are cost effective as they are readily available in the community. Fresh, nutrient rich foods are more expensive and less accessible, creating a burden for individuals who wish to obtain them.

Participants frequently agree that optimal health for their young children is obtained through a balanced diet to promote growth and development. Participants also consistently reported that ideal health for children from birth to five years require exclusive breastfeeding initially, followed by gradual introduction to solid foods. It is evident that these parents are aware of the importance of health, but there is a lack of detail and description of what being healthy actually involves. From our data parents wish for normative child development and growth, yet there is minimal comprehension of how to accomplish that.

It is also valuable to recognize the importance of breastfeeding. Women are recommended to exclusively breastfeed for six months at the minimum, preferably longer, and to continue to complimentary feed for two years (UNICEF, 2003; WHO, 2015). Results suggest that feeding recommendations for infants and children are widely misunderstood, and would be important information for parents from Cape Coast to acquire. Results further reveal that in addition to insufficient food quality, the quantity of food creates concerns. It is evident that some parents lack the resources to provide their children with three full meals per day. Thus, both quality and quantity of food consumed are equal factors influencing proper child nutrition.

By looking at parents’ understanding of healthy eating patterns and identifying potential barriers to optimal child health, effective intervention efforts can be created to assist parents who struggle. These results reveal the importance and value of parental education and awareness of their children’s dietary intake throughout the early stages of life. The appropriate information and tools parents are provided with have the potential to lead to widespread positive child health outcomes across families in Ghana.

*Limitations*

Recall bias is a limitation that arose from this research/study. Not all study participants were new, first time parents; some of the participants were recalling information about their children’s dietary intake from when their children were very young, which may have been many years ago. These parents may also have altered their ideas and perceptions about food and nutrition since their children were young, which may have lead to misinformation in some of their responses, such as their reasoning behind specific feeding choices and what a healthy diet means to them and for their young children.

Lack of clarity of parental nutrition and health knowledge is another limitation presented in this study. Although the educational level of participants was noted, specific knowledge of nutrition was unclear. Knowing the participants’ exposure to overall health education may be more useful and relevant than their general level of education. It may also be helpful to learn about the field of study or concentration of each participant if they attended tertiary or graduate level education in order to have a complete understanding of their health knowledge and health behavior.

Finally, the study participants were not asked directly about their socio-economic situation, which could indicate whether or not they struggled with accessing appropriate resources. Some participants voluntarily identified cost, availability, and access as barriers to feeding, but the question was not specifically laid out for them.

*Implication for Future Research*

It is important to continue to understand and evaluate young children’s feeding practices in regions where nutritional deficits are prominent in order to combat childhood morbidity and mortality. The results of this study highlight critical barriers children face in obtaining and maintaining positive health status. This study stresses the need for future research on childhood health issues in Cape Coast, in an attempt to better comprehend effective methods of prevention and intervention.

The results of this research have created the opportunity to investigate parental nutrition education in addition to examining overall health educational level. Although education level is indeed correlated with health knowledge and health status, it does not imply that parents are knowledgeable about the specific nutritional requirements of their children. Having a college degree does not seem to equate with adequate dietary intake among children. Delving into parental nutrition knowledge and determining where and how parents may be able to access information is essential to improve upon current or create new programs to assist with the promotion of healthy diets. This research is also valuable in understanding parental perception of a child’s health status compared to the reality. In this case it is unclear whether education impacts parental awareness of their child’s health. If parents do not recognize the potential consequences, they will be delayed in responding to dietary-related health issues, as well as in creating opportunity for dealing with more complicated life threatening health issues for children.

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