

Assessment of Fathers' Knowledge, Attitude and Practices on Nutritional Needs of Their Children Under 5 Year-Old in Kigeme Refugee Camp in Rwanda

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ABSTRACT

The educational level of parents significantly impacts the quality of nutrition provided to their children. The specific research objective of this paper states the influence of fathers' knowledge, attitude, and practices on children's lives at Kigeme refugee camp. A descriptive survey research design was employed. The target population was 850 fathers, and the Alain Bouchard formula was used to get a sample size of 264 respondents, where the inclusion criteria included fathers having children under 5 years old in the Kigeme refugee camp. Nutrition literacy theory was used to guide the study. A questionnaire was used as a data collection instrument. The findings revealed that 55.3% of respondents indicated that they did not know how or when a child can be taken for anthropometric measurements. 118 (44.7%) know, and they are interested. It was also found that 57.2 %, as indicated by the study participants, showed that infants have to start to eat at 6 months. Furthermore, the study found that the number of children who are not fed by their fathers is high, as confirmed by 79.6% of the respondents. The study concludes that fathers did not have efficient knowledge, practices, and attitudes toward the growth and feeding of their children under 5 years old, and a few who have such knowledge declare that they have no access to diversified food in order to prepare the recommended balanced diet for their children in the Kigeme refugee camp. The study recommends that there is a need to create opportunities for fathers to access the diversified food of their children and to expand kitchen gardens in Kigeme refugee camp, which could help them enrich their diet through vegetables gotten from them.

Keywords: Attitudes, Children, Father, Knowledge, Nutritional Needs, Practices

I. INTRODUCTION

Under- or over-expression of nutrition could be one of the factors in malnutrition, which could also lead to various deficiencies related to nutrition (Blössner et al., 2005). Overnutrition, ranging from severe nutrient deficiencies to extreme obesity. Nutrition is a deficiency of kilocalories and nutrients and often presents as slow growth and development.

When the weight for age, height for age, and weight for height indices are less than the National Center for Health Statistics (NCHS) reference's -2 Z-score, it is considered a nutritional condition. It is a significant public health issue in developing nations. It is the primary risk factor for the burden of disease, accounting for over 300,000 annual deaths, both directly and indirectly, and over half of all pediatric deaths (Müller & Krawinkel, 2005). Long-term malnutrition has negative effects on children's health and physical development, including delayed physical and motor development, a lower intellectual quotient, increased behavioral issues, insufficient social abilities, and a higher risk of illness (Black et al., 2003). Measuring from 45% for encephalitis fatalities to 61% for diarrhea deaths, mild to moderate malnutrition accounts for a large portion of the burden of malnutrition-related deaths, which is estimated to account for more than half of pediatric deaths in countries that are developing (de Onis et al., 2004).

In Africa, especially in Ethiopia, the lack of nutrition among infants plays a significant issue in the community as well as all over the world in general (Alemu et al., 2005). It was also noted that 44% and 29% were recorded at the national level as being underweight due to poor nutrition, and 10% were found to be on a moderate scale (Central Statistical Agency, 2011). Food insecurity can be caused by a variety of reasons, most of which are related to a poor diet or severe, recurring diseases, especially in populations who are less fortunate. Disease and a deficient diet are intimately related to outside factors, general living standards, and the ability of a population to acquire basic necessities, including housing, food, and medical treatment (Blössner et al., 2005).

A healthy diet is a necessary part of being well. Fathers can make a significant difference in a child's survival and well-being (Kuyper et al., 2010). Fathers have frequently been disregarded in infant and young child feeding (IYCF) promotion initiatives, which have mostly focused on mothers and, to a lesser extent, grandmothers. Field investigation indicates that the efficacy and effectiveness of IYCF behaviour change treatments may be limited if fathers are not included (Kuyper et al., 2012). 52% was recorded in Rwanda by the World Health Organization (2009), saying that children below 5 years old experience serious and chronic poor nutrition.



1.1 Statement of the Problem

A medical disorder caused by a relative or absolute excess or lack of one or more necessary nutrients is referred to as malnutrition. It is a significant public health issue in developing nations. More than half of all child deaths are caused by stunted growth, which is the leading risk factor for disease burden and accounts for around 300,000 deaths annually (Müller & Krawinkel, 2005). Measuring from 45% for measles fatalities to 61% for diarrhea deaths, mild and moderate malnutrition accounts for a large portion of the burden of malnutrition-related deaths, which is estimated to account for more than half of pediatric deaths in developing countries (de Onis M. et al., 2004).

As one of the main causes of illness and death among infants, children, and mothers, malnutrition is an important public health concern. The 2010 Rwandan Demographic and Health Survey (RDHS) revealed the most recent data, which showed that 44% of children under five chronically suffer from retardation or stunted growth.

For the survival of children and their well-being, fathers can be extremely important. Fathers have frequently been disregarded in infant and young child feeding (IYCF) development initiatives, which have mostly focused on mothers and, to a lesser extent, grandmothers.

Based on field observations, the success and efficacy of IYCF behavior change interventions may be limited if dads are not included (Republic of Rwanda, 2013). In this study, fathers will be urged to participate in feeding practices and provide supplementary foods that are high in nutrients for young children.

1.2 Research Objective

To determine the influence of fathers' knowledge, attitude and practices on children' life at Kigeme refugee camp.

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Nutrition Literacy theory

The study was pegged on the Nutrition Literacy Theory. The theory highlights key definitions related to malnutrition and nutrition, types of malnutrition, and the causes of malnutrition in children under five years old. It also covers the therapeutic aspects and management strategies for malnutrition. Children aged 3, 4, and 5 are at a developmental stage where they begin to understand and acquire effective items on their own. Effective learning and understanding of sense organs during this stage can lead to imitation behavior and discipline. Emphasizing a balanced diet and healthy eating habits is crucial for every child (De Onis et al., 2004).

According to the Lancaster General Wellness Center, children ages 3, 4, and 5 typically require 1200–1400 calories per day, though highly active children may need as much as 1600 calories (De Onis et al., 2004; Khumalo, 2001). This study aims to determine the influence of fathers' knowledge, attitudes, and practices on their children's lives at Kigeme refugee camp. Understanding fathers' roles in ensuring proper nutrition and mitigating malnutrition among their children is essential for promoting their overall health and well-being. Fathers' awareness and behaviours regarding their children's nutritional needs and healthy eating habits can significantly impact the prevention and management of malnutrition in young children.

2.2 Empirical Review

According to research by Khumalo (2001), a significant chunk of the Ngwavuma and Manguza areas in Maputaland, KwaZulu-Natal, had a high frequency of undernutrition. The weight and height for the age of the children (ages 0 to 5) had an average below the 5th percentile of the NCHS. In both the Ngwavuma and Ngwanase regions, malnutrition or undernutrition is blatant because many Ngwavuma moms are unemployed, lack food to supplement breast milk throughout the weaning process, and use inappropriate feeding techniques. In Ngwavuma, the majority of moms lack formal education. Hunger is still mostly driven by poverty brought on by social and economic institutions (Harishankar et al., 2004).

In Aguata L.G.A. of Anambra State, Nigeria, research conducted in 2009 by Okoroigwe et al. revealed that, respectively, 7.7, 7.7, and 2.4% of the children were wasted, impaired, and underweight. Each child's daily energy intake varied from 51.2 to 62.9% of their daily energy needs. They often consumed inadequate amounts of protein, iron, calcium, and B-complex vitamins on a daily basis, but they consumed more vitamin A than was necessary. But the majority of their diet consisted of plant-based foods, whose nutrients are not very accessible.

The National Food Consumption Survey of 1999 by Salama (2014) in South Africa showed a significant prevalence of overweight and obesity (17.1%) and stunting (21.6%) in children ages 1 to 9 years. Less than half of the required consumption of vitamins A, C, riboflavin, niacin, B6, folate, calcium, iron, and zinc was found in one out of

two children. Numerous deficiencies in micronutrients, as well as levels of underweight and stunting as high as 50% prior to the start of antiretroviral therapy, have been reported in studies involving children with HIV.

According to a 2006 paper by Schuyler, child food programs in the United States that are accessible to families with incomes under 185% of the federal poverty line are not fully utilized. Only 23.7% of the eligible children are served by the school breakfast program, even though 70.3% of low-income children receive a free or reduced lunch at school. Considering there are so few locations that are open, even fewer people are served by the summer meal program (19.8%). According to the research, only 3% of two- to five-year-olds in New York eat the necessary amounts of vegetables each day, compared to roughly half who eat the recommended amounts of fruit. Teenagers report eating at least five fruits or vegetables a day, but only 24% do so.

According to research by Harishankar et al. (2004), the majority of children in India's normal nutrition group (83, or 78.30%) were in the 25–36 month–92–3 year age group. In the 13–24-month age group, the largest overall prevalence of malnutrition was 33 (32.02%). The age range of 37 to 72 months was shown to have the highest frequency of grade I malnutrition. Age groups 0–12 months had the highest rates of grade III malnutrition, whereas 13–14 months had the majority of children with grade II malnutrition. The maximum number of children diagnosed with grade IV malnutrition was determined to be 2 (1.88%) in the 25–36 month age group and 1 (0.65%) in the 37–72 month age group.

According to 2003 research by Mercedes de Onis and Monika Blössner, child anthropometric data from 846 surveys may be found in the World Health Assembly's Global Database on Child Growth and Malnutrition. The database covers 99% of children under 5 in developing countries and 64% of children under 5 in rich countries, with 412 national surveys from 138 countries and 434 sub-national surveys from 155 countries, respectively. This abundance of data makes it possible to compare nutritional data across national borders, aids in the identification of groups in need, assesses the efficacy of nutritional and other public health programs, tracks trends in children's growth, and increases political awareness of nutritional issues.

According to a study conducted in Rwanda by Hesketh (2017), there was no decline in children's nutritional quality among the country's established rural and urban populations between the early 1980s and early 1990s. In the early 1990s, the nutritional status of Rwanda's internally displaced inhabitants was more precarious and fluctuated according to the availability of food supplies. In 1993, a little over 4% of Rwandans were living in camps for the displaced. Because only the non-displaced population was included in representative population-based surveys, there was a very tiny downward bias in the prevalence of malnutrition in the early 1990s. They found no evidence from the anthropometric information that food supply considerably deteriorated in Rwandan farm households throughout the period from the beginning.

Given the significant prevalence of various forms of malnutrition in the nation over a long period of time, Rwanda's nutritional position is still perilous. The high rates of baby, child, and maternal death in Rwanda over the past 20 years have been mostly attributed to protein-energy malnutrition and micronutrient deficiencies, which continue to be serious public health issues. While underweight prevalence fell from 29% in 1992 to 22% in 2005, there was a minor increase in stunting or chronic malnutrition (42% and 45%) throughout the same period. This state of affairs is a reflection of the population's ongoing socioeconomic hardship over the past 20 years, which has mostly been caused by the fallout from the war in the 1990s.

In their report (Basics III), according to Basics, under-five Rwandan children are severely malnourished. According to height-for-age measures, 19% of children under five have severe chronic malnutrition, which manifests as stunting or being too short for their age. This affects 45% of children under the age of five. This number is around 20 times higher than what a population that is well-nourished would anticipate. 19% of them have severe stunting. 4% of children under five suffer from acute malnutrition, also known as wasting. Given their height, these kids are excessively skinny. This rate is roughly twice the reference population's projected rate. Ten times more children (22%) than one would anticipate in the reference population are underweight or have poor weights for their age.

A report by Wise (2004) shows that in Rwanda Below-five-year-old children are more susceptible to hunger, especially stunting. For the youngsters in the sample, the mean height-for-age (HA) Z-score is -1.76 (SD of 1.44). The general nutritional status of children is significantly poorer than that of children in the reference population (where the mean HAZ = 0), as indicated by the low mean HAZ score. The increased standard deviation (1.44 in this sample compared to 1.01 for the reference group) indicates that the HAZ scores in this study were more variable than those in the group that had adequate nutrition.

III. METHODOLOGY

The purpose of this paper was to state the influence of fathers' knowledge, attitude, and practices on children's lives at the Kigeme refugee camp. A descriptive survey research design was employed. The target population was 850 fathers, and the Alain Bouchard formula was used to get a sample size of 264 respondents, where the inclusion criteria included fathers having children under 5 years old in the Kigeme refugee camp. A questionnaire was used as a data collection instrument. Descriptive analysis was established to get some frequencies and percentages related to the achievement of specific research objectives.

IV. FINDINGS & DISCUSSION

4.1 Response Rate

All the 264 persons sampled in the study filled the questionnaires. This made a response rate of 100% which was deemed sufficient for analysis.

4.2 Knowledge, Attitudes and Practices Regarding Hygiene and Sanitation

The low quality of nutrients taken by children is considered to be a significant issue all-over the world. However, there are the major factors that lead to experiencing a shortage of quality food which are supposed to be important in children's growth as well as reducing various infectious diseases and other chronic poor nutrition.

Table 1

Washing Hand Before and After Child Feeding

Indicators	Frequency	Percent
Yes	181	68.6
No	83	31.4
Total (n)	264	100

It is known that malnourished children are at high risk of infection. Being attached to various diseases caused by dirtiness, like diarrhoea, could not be linked with the transmission of factors, including pathogens, that pass through water or a lack of clean water. The availability of hand washing plays a significant role in the protection of various diseases caused by taking dirty water. In our study, we have taken on the responsibility of knowing how the Kigeme camp's fathers take on the role of minimizing the infections in their children. As shown in Table 5, 264 respondents answered the question, "Do you wash your hands before and after feeding your child?" It was noted that 68.6 % respondent said YES and 31.4% said NO. It is surprising that there is still a gap in the prevention of infection transmission. According to Laras (2019), food handlers have a good level of practice related to checking the shelf life of raw materials, using cleaners when washing equipment, and not using excess food additives.

4.3 Knowledge, Attitudes and Practices Regarding Child's Anthropometrics Measurement

Table 2 indicated that a higher percentage of fathers did not know about or were not interested in the growth of their children. Among the 264 fathers interviewed, 146 (55.3%) did not know how or when a child should be taken for anthropometric measurements, while 118 (44.7%) did know and were interested. According to Salama (2014), nutrition was a significant factor in the growth, development, and overall functioning of a child.

Table 2

Child Growth

Indicators	Frequency	Percent
No	146	55.3
Yes	118	44.7
Total	264	100

4.4 Knowledge, Attitudes and Practices Regarding Child Feeding

The findings in Figure 1 indicate fathers' knowledge in terms of feeding their children. It was found that 57.2% indicated that father gates knowledge of feeding their children at 6 months while 38.3% expressed that they get such knowledge after 6 months. 2.7% of respondents indicated that infants should start to eat at lesser than 6 months and 1.9% they do not know.

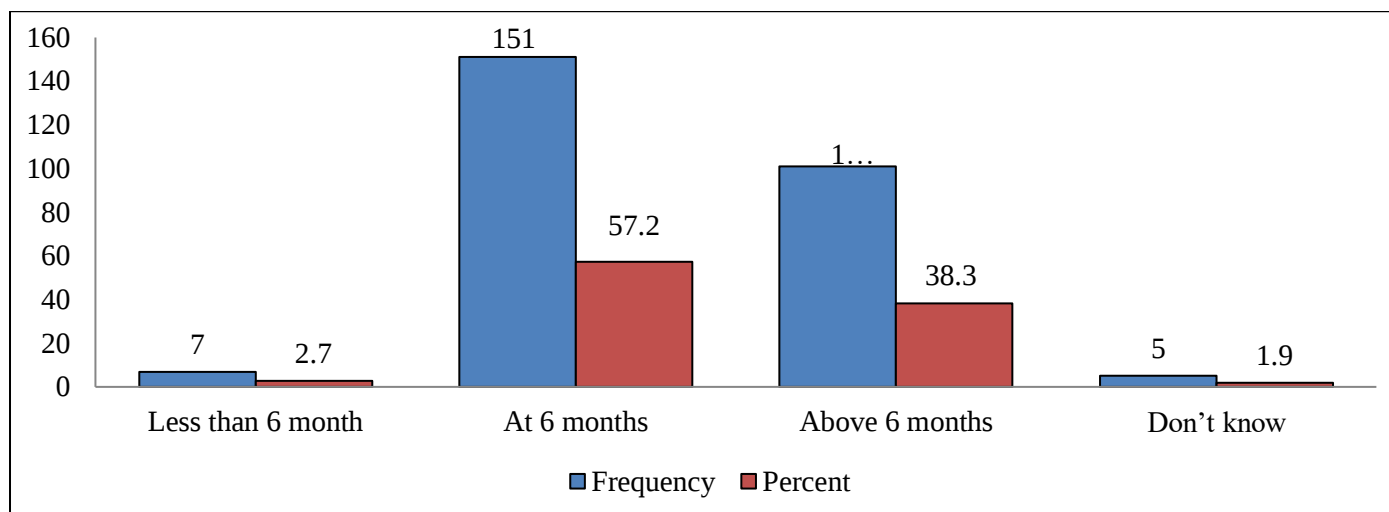


Figure 1
Knowledge of Fathers Regarding Child Feeding

4.4.1 Attitude Regarding Child Feeding

This study evaluated the status of parents who know how to feed their children as the status of participating in feeding their children.

Table 3
Attitude of Fathers Regarding Child Feeding

Indicators	Frequency	Percent
Yes	107	40.5
No	157	59.5
Total (n)	264	100

In practice, 59.5% of the respondents did not know how to feed their children; only 40.5% knew it. This implies that the majority of parents participate actively in feeding their children, which significantly reduces the level of child development. According to Mallan (2013), fathers, like mothers, should be viewed as potential agents for the implementation of positive feeding practices within the family.

4.4.2 Practice Regarding Child Feeding

In our sample, the number of children who are not fed by their fathers is high, as indicated in Table 9. Of the 157 respondents who did not feed their children, 79.6% said that it is the duty of women, 8.28% did not specify the reasons, and 7.6% said they did not have time. According to Black et al. (2003), feeding practices include establishing routines and structure around eating, such as family dinners eaten together at a particular time each evening, and facilitating children's autonomy in food intake and energy regulation by their parents, which should allow children to choose food quantity within a range of healthy options, encouraging moderation.

Table 4
Reasons for Lack of Feeding their Children

Reason	Frequency	Percent
No time	12	7.6
I cannot manage	7	4.5
It is the duty of women	125	79.6
Others raisons	13	8.3
Total	157	100

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4.4.3 Knowledge of Fathers about Balanced Diet to their Children

The findings presented in Table 5 indicate the quality of food to be given to children in everyday life. Fathers who responded to the questions asked indicated that they were feeding children at 6 months and older. However, breast feeding is important in this period where the foods ordinarily given in this age category include maize and beans (64.4%), beans, maize, vegetables, Irish potatoes, bananas, milk (3.8%), beans, vegetables, and maize (1.5%), and 23.5% of respondents did not know what kind of food their children take every day. According to Hesketh (2017), fathers believe healthy eating behaviors and being physically active are important for their young children. Hesketh (2017) also added that fathers believe that such behaviors can be promoted and supported in different ways, including the provision of an appropriate meal and physical activity environment and parental role modeling of desired dietary and physical activity behaviors.

Table 5

Foods Ordinarily Given to Children

Indicators	Frequency	Percent
Beans, vegetables and Maize	4	1.5
Maize, Beans	170	64.4
Beans, Rice, Vegetables	10	3.8
Beans, Rice, Maize	8	3
Beans, Maize, Vegetables, Irish potatoes, Banana, Milk	10	3.8
Do not know	62	23.5
Total (n)	264	100

4.4.4 Knowledge of Fathers about Supplementary Food of their Children

The study sought to investigate the status of knowledge's father in terms of supplement foods given to children.

Table 6

Types of Supplements

		Type of supplements						Total
		Irish Potatoes	Vegetables	Cassava, Irish potatoes, vegetables, dried fish, meat, eggs	cassava, Irish potatoes, vegetables	Irish potatoes, vegetables	No supplements	
Supplement	Yes	9 (3.4%)	27 (10.2%)	5 (2%)	13 (5%)	46 (17.4%)	0	100 (37.9%)
	No	0	0	0	0	0	164 (62.1%)	164 (62.1%)
Total								264 (100%)

The findings in Table 6 present the types of supplements food given to children. It was found that the majority of the respondents (37.9%) had knowledge of being given cassava, Irish potatoes vegetables dried fish, meat and eggs as a supplement food to breast feeding. This shows that majority of fathers do not experience relevance knowledge of feeding their children. This significantly affects children to be given poor quality of food to their children.

4.5 Discussions of the Research Findings

Food handlers are directly related to food and equipment because the spread of pathogenic microbes may occur during the production, processing, distribution, and serving of food. Therefore, food handlers play an important role in food hygiene. In this study, washing hands before and after child feeding was reported by 68.6% of respondents, while 31.4% said no. One of the factors that contributes to the spread of foodborne diseases is the wrong practices and lack of knowledge by food handlers regarding food hygiene (Salama, 2014).

The study found that 55.3% of respondents revealed that they did not know how or when a child should be taken for anthropometric measurements, while 44.7% did know and were interested. According to Taras (2005), good nutrition provides the energy and nutrients essential to sustain life and promote physical, social, emotional, and cognitive development. In the study, 2.7% of respondents indicated that infants should start to eat at less than 6

months, and 1.9% did not know. Laras (2014) also indicated that during early childhood, the body is growing at an alarming rate.

The study investigated the types of supplements and foods to be given to children and found that there is a significant effect of poor quality food on children. The study conducted by Salama (2014) indicated that the nutritional knowledge of parents regarding the nutritional practices of their children shows no significant correlation. However, there was a significant correlation between parents' knowledge scores and healthy food intake in general among children.

V. CONCLUSIONS & RECOMMENDATIONS

The study revealed that the majority of interviewed fathers at the Kigeme refugee camp lack efficient knowledge, practices, and attitudes toward the growth and feeding of their children under 5 years old. Additionally, those few fathers who possess such knowledge reported having no access to diversified food necessary to prepare a recommended balanced diet for their children.

5.2 Recommendations

The study recommended establishing breastfeeding intervention programs for protection, promotion, and support of breastfeeding. The study recommended to create opportunities for fathers to access on diversified food of their children and to expand kitchen gardens in Kigeme which could help them to enrich their diet through vegetables gotten from them.

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