

# Influence of Complementary Feeding Practices on Nutritional Status of Children Between 6 to 24 Months in Kisumu County, Kenya

Mudis Pamela Akinyi<sup>1</sup> & Mudis Felicity C. Achieng<sup>1</sup>

<sup>1</sup> Department of Educational Psychology, Masinde Muliro University of Science and Technology, Kenya

Correspondence: Mudis Pamela Akinyi, Department of Educational Psychology, Masinde Muliro University of Science and Technology, Kenya.

doi:10.56397/JRSSH.2023.02.01

## Abstract

Despite complementary feeding practices among mothers with children aged 6 – 24 months, death and disease infection rates are still escalating regardless of the nutritional status of children within that age gap. Complementary feeding practices plays a key role in providing the much-needed nutrients as it enhances successive development and general wellbeing of children, 6-24 months. A few research studies have been conducted in Kisumu County, more specifically, Kisumu County Referral Hospital on complementary feeding practices and nutritional status among children aged 6-24 months which is part of the critical window in the life of a child. The study assumed that most mothers with children between the age of 6-24 months within the Sub County attended Kisumu County Referral Hospital which was the area of study. The current study sought to establish the influence of complementary feeding practices and the nutritional status of children 6-24 months. A sample selection of 79 participants was done through purposive sampling. Data was harvested through questionnaires. The study instruments were piloted and adjusted using participants who were not part of the sample. Analysis of data was done using descriptive statistics; mean and percentages. The study reveals that there are poor complementary feeding practices among mothers due to harmful cultural beliefs and low social-economic status. The study also report that malnourished children were 55% male and 45% female respectively. The study recommends that health aid programs should be more focused on homes with low economic background, counseling and sensitization to improve the mother's knowledge on complementary feeding practices and nutritional status.

**Keywords:** complementary, feeding practices, nutritional status

---

## 1. Introduction

Globally, complementary feeding practices and the nutritional status of children aged between 6 to 24 months is an issue of great concern as

shown in previous studies done by the World Health Organization and United Nations Children's Educational Fund (WHO; UNICEF, 2013). Research studies conducted by Abeshu,

Azeb and Bekesho (2016) and Mokeri, Schonfeldt and Hendriks (2016) report that more than a 1/3 of child death the world over is due to mothers and care givers poor knowledge on complementary feeding practices. United States Agency International Development (USAID, 2017) findings indicate that increased infant death is a deeply rooted problem in Asia and Africa with an estimated 178 million malnourished children.

Complementary feeding is referred to as the period of introducing liquid, semi-solid or solid foods together with consistent breastfeeding for up to two years or more to infants at the age of 6 months as breast milk is no longer sufficient to meet their increased energy and nutrients requirements. Complementary feeding practice is broad and includes diversity and adequate frequency of meals, appropriate quantity of food for the age, meal consistency, hygienic practices in relation to handling of food. (WHO; UNICEF, 2010; Subba, Bhattarai, & Roy, 2014). Moreover, Mwita (2014)) assert that in as much as adequate breastfeeding is important, the death rate and stagnation in growth is still prevalent among infants with anemia, so mothers and caregivers should provide appropriate complementary foods to infants at the onset of 6 months. Consequently, complementary feeding practices has a direct effect on an infant's nutritional status. For reduced mortality rates among children the burden of malnutrition has to be reduced or totally wiped out. which will not happen until the mothers or caregivers start giving appropriate complementary foods (Kipkorir, 2013; Nasibeh & Firoozeh, 2015).

A study conducted in Northwest Ethiopia by Bentamen, Belaynew and Dube (2014) report that an average 57.7% of mothers began complementary feeding practices in the 6th month of the infant's life ,60.7% gave diverse food groups and 50.4% mothers fed their children thrice a day as World Health Organization requires. However, the study adds that only 44% of the participants attained minimum dietary diversity, minimum meal frequency and timely introduction to complementary feeding. The mean age of introduction of complementary feeding was 6 months, least age was 3 months, greatest age 7 months. Major reason for introduction was inadequate breast milk by the mother. (Belete, Kebede, Chane, Melese & Tedesse, 2022).

Molla, Ejigu and Girma (2017) report that

complementary feeding should be timely, meaning that infants should start receiving foods in addition to breast milk from 6 months onward, should be adequate (given in the right amounts, right frequency, consistently and using a variety of foods to cover the nutritional needs of growing child while maintaining breastfeeding up to two years or more. food should be prepared and given in a safe manner (measures are taken to minimize the risk of contamination with pathogens. adequacy of complementary feeding depends on the availability of a variety of foods in the household, feeding practices of the caregivers or mothers.

Research studies by WHO (2003) and Kabura (2016) defines nutritional status as the overall state or condition of the body with respect to each nutrient taken up by infants 6 to 24 months. The domains of nutritional status are underweight, wasting and overweight. Stagnation is caused by inadequate diets or recurrent diseases, a burden of long-term deprivation of appropriate nutrients (Dewey & Adu, 2008). On the other hand, wasting is a sign of serious under nutrition due to insufficiency of food intake or persistent diseases (WHO, 2000; Kavosi, Hassanzadeh, Kavosi, Aliasghah, Moghadami & Heidari, 2014). Moreover, Dewey and Begum (2011) and WHO/ UNICEF (2016) asserts that children's nutritional status is directly affected by complementary feeding.

Studies by UNICEF (2014) and Ahoya; Kavier; Staubinger and Gathi (2019) opines that lack of awareness, skilled support and affordable nutrient rich foods is an ongoing problem in Kenya, Kisumu County not an exception. Although USAID (2017) asserts that Kisumu County experiences the burden of complementary feeding and infants' nutritional status, not much has been done to unearth the depth of timely introduction of complementary foods on the nutritional status of children between 6 to 24 months. Therefore, the current study sought to establish the influence of complementary feeding on nutritional status among mothers with children aged 6-24 months in Kisumu County.

## 2. Research Methodology

The research design for the study was cross sectional study design. It was used to obtain data on complementary feeding practices of mothers or caregivers with children aged 6 to 24

months and to assess their nutritional status. Descriptive survey design was used to describe the state of affairs as it exists as it provides quantitative and numeric descriptions of some part of the population. It is suitable for this study as it allows the researcher to collect data about people's attitudes, opinions and habits on a variety of social issues. The study was conducted in in Kisumu County Referral Hospital, Kisumu County, Kenya. The population targeted was 384 mothers with children aged 6 to 24 months. Purposive sampling was used to select 79 mothers with children aged 6- 24 months. The main instruments for data collection were questionnaires. Reliability of the instruments was determined as Cronbach Alpha of  $\alpha = 0.8$ . Validity test was done to check the degree to which test items measure the characteristics for which they were designed.

### 3. Results and Discussion

The results in Table 1 report the sources of information on mothers' knowledge on complementary feeding.

**Table 1.** Source of Information on Mothers Knowledge on Complementary Feeding

Variable	Frequency	Percentage
Electronic sources	12	11
Print media	4	4
Poster	19	19
Friends	9	9
Health providers	58	57
Others specify	0	0
Total	102	100

Table 1 indicates that most mothers had received the information concerning complementary feeding from health providers at 57%, followed by posters at 19%, electronic sources at 11%, 9% from their friends and the least common source was print media at 4%. A study done by Ethiopia by Bentamen, Belaynew and Dube (2014) indicated that an average of 57.7% mothers began complementary feeding practices in the 6th month of the infant life, 60.7% gave diverse food groups and 50.4% mothers fed their children thrice as WHO requires. Only 44%, 70.7% and 66.9% of the participants attained

minimum dietary diversity, minimum meal frequency and timely introduction to complementary feeding respectively.

In Table 2, the findings of the study report that 33% of the respondents knew that the importance of complementary feeding was to provide energy and nutrients to the child because breast milk could no longer sustain the baby, a 22% believed that it was majorly for energy, 17% of the mothers believed that it was to provide nutrients with another 17% believing that it was to keep the child healthy. An 11% of the mothers did not know the importance of complementary feeding.

**Table 2.** Importance of complementary feeding

Variable	Frequency	Percentage
Energy	20	22
Nutrient	16	17
Energy and nutrients	30	33
Keep child healthy	16	17
Don't know	10	11
Total	92	100

Table 3 shows that easy access, affordability and economic status of mothers influences the type of food given to children aged 6-24 months. The study results indicate that 44% of mothers feed children on what locally available due to inadequate finances.

**Table 3.** Effect of availability and affordability of foods given to children aged 6-24 months

Variable	Frequency	Percentage
Easy access, saves time and money	19	4
Lack of money so use what is available	18	44
Some foods are expensive	2	5
Most of the food is from the farm	2	5
Total	41	100

#### (1) Knowledge on Dietary Diversity

The findings of the study in Table 4 report the

mothers understanding of dietary diversity given to children aged 6- 24 months.

**Table 4.** Understanding dietary diversity

Variable	Frequency	Percentage
Different food types containing different nutrients	29	36
Balanced diet	33	42
Don't know	17	22
Total	79	100

According to the findings of the study presented in Table 4, 42% believed that dietary diversity was a balanced diet, a 36% believed that it was different food types containing different nutrients with the least, a 22% having no knowledge whatsoever about dietary diversity. In another study, by WHO (2013) indicate that complementary feeding should be timely, meaning that infants should start receiving foods in addition to breast milk from 6 months onward, should be adequate (given in the right amounts, right frequency, consistently and using a variety of foods to cover the nutritional needs of growing child while maintaining breastfeeding up to two years or more

The results in Table 5 shows the age mothers started complementary feeding among children aged 6-24 months.

**Table 5.** Age a mother started giving complementary food

Variable	Frequency	Percentage
Below 6 months	7	9
6 months	63	80
7-8 months	8	10
Others specify: 9 months	1	1
Total	79	100

Table 5 shows that majority of the mothers, 80%, introduced complementary feeding at 6 months, 10% introduced at 7-8 months followed by a 9% at below 6 months then the last, a 1% at 9 months.

Table 6 shows results on age and gender

difference of malnourished children as well as the mothers age and occupation. As well, the result on this table shows the mothers knowledge of complementary feeding practices.

**Table 6.** Age, Gender Difference of Malnourished children/Mothers Age and Occupation

Variable	Frequency	Percentage
<b>Age in months</b>		
6	4	36
8	2	18
15	2	18
24	3	27
<b>Sex</b>		
Female	5	45
Male	6	55
<b>Mothers age(years)</b>		
4	4	36
18-23	4	36
24-29	3	27
30-35		
<b>Mothers' occupation</b>		
2	2	18
Farmer	4	36
Business	1	9
Self employed	4	36
Employed	0	0
University		
<b>Knowledge on complementary feeding</b>		
3	3	27
2	2	18
None	6	55
Poor		
Good		

The results on table 6 show that an average of 55% male children and 45% female children were malnourished. Research studies by Dewey and Adu (2008) and WHO (2000) show that stunting is caused by inadequate diets or recurrent diseases, a burden of long-term deprivation of appropriate nutrients

In Table 7, 57% of the respondents reported that cultural beliefs regarding complementary

feeding practices must be adhered to so as avoid ill luck or taboos from affecting the child, 24% said that foods recommended by the culture contains all the nutrients necessary to keep the bay healthy, 14% believed that it prevents the baby from malnutrition with the least being a 5% who believed that, it prevents allergic reaction on the child.4.4.6 Access and use of treated water

**Table 7.** Influence of culture on choice of food

Variable	Frequency	Percentage
Culture must be obeyed to prevent taboo/bad luck	12	57
Foods recommended contains all nutrients necessary	5	24
The baby can suffer from malnutrition	3	14
Prevents allergies	1	5
Total	21	100

#### 4. Conclusion and Recommendations

In summary, the study reveals that mothers Knowledge on complementary feeding is actually high in Kisumu Central Sub County. However, the main challenge on complementary feeding practices and nutritional status of children 6-24 months is poor social and economic status of mothers.as many lack the money to ensure they purchase nutritious food and clean water. Additionally, the percentage of children who are malnourished stood at an average of 55% for males and 45% for females. As such, male children were more stagnated in their development than females. This difference is attributed to poor maternal health education and low-income status of the mothers. The result of the study as well indicates that culture is of great significance on complementary feeding practices and the nutritional status of children, 6-24 months. Consequently, adequate child feeding practices needs to be enforced by health professionals. As well, mothers with children in this age bracket should also be sensitized on dangers of holding on negative cultural beliefs, attitudes that interfere with healthy complementary feeding practices as this will enhance nutritional status of children and

increase their general wellbeing. The study also recommends that mothers should engage in economic activities that enable them to provide nutritious diets their children. Moreover, health providers should cultivate, appropriate programs and counseling schedules for low economic households.

#### References

- Abeshu, M.A; Azeb, L; & Bekesho,G. (2016). Recommendations, Feeding Practices and Adequacy of Homemade Complementary Food Preparations in Developing Countries-Lessons from Ethiopia. *Frontiers in Nutrition*, 3(1).
- Ahoya, B; Kavie, J.A; Straubinger, S & Gathi, C.M. (2019). Accelerating Progress for Complementary Feeding in Kenya: Key Government Actions and Way forward. *Maternal and Child Nutrition*, 15, (Suppl 2).
- Belete, S; Kebede, N; Chane, T; Melese, W & Tadesse, E,S. (2022). Optimal Complementary Feeding Practices and Associated Factors among Mothers having Children 6 to 23 Months, South Wollo Zone, Dessie Zuria, Ethiopia, National Library of Medicine, Ethiopia.
- Bentamen G.; Belaynew W. & Dube J. (2014). Assessment of factors associated with malnutrition among under 5 years aged children at Machakeil Woreda, *Northwest Ethiopia*, Doi <https://doi.org/102147/PHMT.S172317>, pp. 81-88.
- Dewey, K.G & Adu, A.C. (2008) Systematic Review of the Efficacy and Effectiveness of Complementary Feeding Interventions in Developing Countries. *Maternal Health Nutrition*, 4(1), 24-84, Pmid 18289157.
- Dewey, K.G & Begum, K. (2011). Long Term Consequences of Stunting in Early Life. *Maternal and Health Nutrition*, 7(S3), 5-18. <https://doiorg/10.1111/j.17408709;201100349>.
- Kabura,J.I (2016). Knowledge, attitude and practices of mothers with malnourished children less than 36 months regarding breastfeeding and complementary feeding in Kitui County Hospital, University of Nairobi Library.
- Kavosi E; Hassanzadeh Z. R; Kavosi Z; Aliasghar N; Moghadami, M & Heidari M. (2014). Prevalence and Determinants of Under nutrition among children under 6: a cross sectional survey in Fars Province, Iran,

- pp. 71-76, 2014.
- Kipkorir, K.J. (2013). Determinants of Complementary Feeding Practices and Nutritional Status of Children 6-23 Months old in Korongocho Slum, Nairobi County, Kenya. Kenyatta University Library.
- Mokeri. A; Schonfeldt . H; & Hendriks. L. (2016) Child factors associated with complementary feeding practices in Uganda, doi.org/10.1080/16070658.2016.1225887.
- Molla, M, Ejigu.T & Girma N. (2017). Complementary feeding practices and associated factors among mothers having children 6-23 months of age, Lasta District, Amhara Region, Northwest Ethiopia. *Advances in Public Health*, <https://doi.org/10.1155/2017/4567829>.
- Mwita, L O. (2014). Correlates of Complementary feeding practices among caregivers of infants and young children aged 6-24 months at Mbagathi District Hospital, Nairobi., University of Nairobi Library.
- Nasibeh. S & Firoozeh M.H. (2015). Determinants of complementary feeding practices among mothers of 6-24 months failure to thrive children based in behavioural analysis phase of PRECED model, Tehran, doi10.4103/2277.9531.184565PMCID: PMC4960768.
- Subba, D. S; Bhattarai, S. & Roy, R. (2014). Knowledge among mothers regarding weaning practices of Jhangad community of Jhuraht U. D. C, Nepal.
- United Nations Children Educational Fund, (2014). Complementary Feeding of Children of 6 to 24 Months old. Training Manual for Health Extension Workers and Community Volunteers to Train Mothers and Care Givers. Food Science and Nutrition program. Addis Ababa University.
- United States Agency International Development, (2017). A Counseling Guide for Complementary Feeding for Children 6-23 Months in Kisumu and Migori, Kenya. Based on Results Trials of Improved Practices (TIPS) Complementary Feeding Assessment. Maternal and Child Survival Program, Kisumu, Kenya.
- World Health Organization/United Nations Children's Educational Fund, (2014). Global Strategy for Infant and Young Child Feeding, Geneva, WHO.
- World Health Organization/United Nations Children's Educational Fund, (2010). *Indicators of Assessing Infant and YOUNG Child Feeding Practices Part 2: Measurement*, Geneva, WHO.
- World Health Organization/ United Nations Children's Educational Fund. (2013). *Infant and Young Child Feeding National Guidelines*. Food and Nutrition Centre, Tanzania.
- World Health Organization. (2000). Complementary Feeding, Family Foods for Breastfed Children. Department of Nutrition for Health and Development, WHO.
- World Health Organization. (2003). *Complementary Feeding of The Breastfed Child*. Division of Health Promotion and Protection Food and Nutrition Program, Washington D.C.