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# NUTRITIONAL STATUS OF INFANTS BORN TO YOUNG MOTHERS IN NAROK COUNTY, KENYA

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**Abstract**
The purpose of this study was to assess breastfeeding practices and determine their association with nutrition status among infants born to adolescent mothers in Transmara West, Narok County. Adolescents' motherhood remains a challenge because they are unprepared for childcare, putting their infants at risk of malnutrition. In order to prevent the occurrence of common illnesses, infants should be fed according to WHO recommendations. However, research on dietary practices and the health of infants belonging to young mothers is scarce in Kenya. Most of the mothers were between 16 to 17 years, with the youngest mother being 14 years old. Breastfeeding practices were as follows; early initiation within one hour was (62.2%), exclusive breastfeeding was (50.0%) and continued breastfeeding at 12 months was (5.5%). Malnutrition levels were 17.1 per cent, 22.0 per cent and 22.0 per cent for wasting, stunting and underweight, respectively. The study did not establish any significant relationship between exclusive breastfeeding and the nutrition status of the infants. Similar research should be replicated especially to compare the nutrition status of infants of adult mothers with that of young mothers in the same study area.

**Key terms:** Adolescent Mother, Breastfeeding, Feeding Practices, Infant, Nutritional Status.

## 1.0 INTRODUCTION

Malnutrition has been associated with childhood morbidity and mortality, future learning capabilities and non-communicable diseases. According to World Health Organization (2018), the prevalence was approximately 51 million in 2017, with wasting being 7.5 per cent and 5.6 per cent overweight. In a study in Ghana among adolescent mothers, children under 5 years were found to have an increased risk of stunting and wasting underweight compared to similar children of adult mothers (Wemakor et al., 2018). In addition, children the adolescent have been found to have low weight at birth due to environmental factors such as poor socioeconomic factors and the mother's level of education (Fanzo & Pronyk, 2012).

According to (Raj et al., 2010), low maternal age and poor socioeconomic status among young mothers contributed to high infant mortality and malnutrition among their children. In addition, their children were found to be malnourished due to the competitive nutrients between them and their infant. In a study by (Finlay et al., 2017), it was found that young maternal age and short birth intervals contributed highly to poor nutritional status and infant mortality and morbidity, especially in firstborn infants. The breastfeeding duration of young mothers has been found to be short since most of them lack the proper breastfeeding knowledge and are confused about motherhood (Smith et al., 2012). Adolescent mothers' choice of breastfeeding has been reported to be related to attitudes, knowledge on breastfeeding, perceived benefits, problems associated with nipple pain, and breastfeeding experience (Tucker et al., 2011). Difficulties in latching and low milk supply were associated with the early introduction of liquids than solids among adolescent mothers in the Durham region (Report, 2015).

## 2.0 LITERATURE REVIEW

In a study by Godbout (2016), parents of adolescent mothers have been found to influence their infant feeding choices leading to low levels of breastfeeding and early introduction of bottle-feeding. In a separate study, nipple pain, fatigue and soreness contributed to low breastfeeding levels (Camarotti et al., 2011). The Kenya national data by KNBS and ICF MACRO (2015) reported that; 26 per cent of children below five years in Kenya are stunted, 4 per cent wasted and 11 per cent underweight based on WHO 2006 reference growth standards. In Narok County, global acute malnutrition prevalence remained poor as compared to that of June 2013 (Narok County SMART Survey Report, 2018, n.d.). The levels of malnutrition were as follows; underweight and stunting levels were at 18.9 per cent and 27.2 per cent, respectively. Stunting levels were classified as a medium that is 1 in 4 children in the county are stunted (Narok County SMART Survey Report, 2018). The current research study determined the dietary practices, health and nutrition status of infants born to adolescent mothers in Transmara West Sub County.

## 3.0 METHODOLOGY

The study employed a descriptive cross-sectional study design to assess dietary practices, health and nutrition status of infants of adolescent mothers. The study was conducted in Transmara West Sub County which is divided into six divisions; Kilgoris, Keyian, Kirindon, Angata and Pirrar. Transmara West Sub County is within Narok County. Most of the mothers were between 16 to 17 years, with the youngest mother being 14 years old. Infant nutritional status was measured using the indicators of weight-for-height, height-for-age and weight-for-age. Infants who were below -2SD were considered malnourished, and those with less than -3 SD were severely wasted.

## 4.0 RESULTS AND DISCUSSION

### Infant Nutritional Status

Infant nutritional status was measured using the indicators of weight-for-height, height-for-age and weight-for-age. Infants who were below -2SD were considered malnourished, and those with less than -3 SD were severely wasted. According to the findings in this study, wasting was 17.1 per cent, stunting was 22.0 per cent, and underweight was 22.0 per cent. Additionally, there were no bilaterally pitting oedema cases found among the assessed infants. As compared to girls, boys had a higher prevalence of malnutrition than girls did.

### Acute Malnutrition

Acute malnutrition was presented as severe, moderate and total wasted. More boys (17.9%) had low weight for their length (wasting) than girls (9.3%), while wasting in the age group of 6-8 months was found to be highest (Table 1).

**Table 1: Showing the Level of Wasting by Sex and Age of the Infants**

| | Gender of the infant | | All |
|---|---|---|---|
| | Girls (n=140) | Boys (n=106) | n=246 |
| Global malnutrition (< -2z-score ) | 123 (87.9% | 81 (76.4%) | 204 (82.9%) |
| Moderate malnutrition (<-2 z-score and ≥-3 z-score) | 13 (9.3%) | 19 (17.9%) | 32 (13.0%) |
| Severe malnutrition (< -3z-score) | 4 (2.9%) | 6 (5.7%) | 10 (4.1%) |

| | Age group of infants | | | |
|---|---|---|---|---|
| By age | <6 months | 6-8 months | 9-11 months | Total wasting |
| Normal≥ -2SD to<+2SD | 98 (81.7%) | 49 (83.1%) | 57 (85.1%) | 204 (82.9%) |
| Moderately wasted≥-3SD to <-2SD | 13(10.8%) | 915.3%) | 10(14.9%) | 32(13.0%) |
| Severely wasting< -3SD | 9 (7.5%) | 1 (1.7%) | 0(0.0%) | 10 (4.1%) |

### Chronic Malnutrition

More boys (15.1%) were short for their age than girls (9.3%) were, while stunting was highest in the age group 1-6 months (17.5%) (Table 2).

**Table 2: Showing the Level of Stunting by Sex and Age of the Infants**

| | Gender of the infant | | All |
|---|---|---|---|
| | Girls (n=140) | Boys (n=106) | n=246 |
| Stunting (< -2z-score ) | 118 (84.3%) | 74 (69.8%) | 192 (78.0%) |
| Moderately stunted (<-2 z-score and ≥-3 z-score) | 13 (9.3%) | 16 (15.1%) | 29 (11.9%) |
| Severely stunted (< -3z-score) | 9 (6.4%) | 16 (15.1%) | 25 (10.2%) |

| | The age group of infants | | | |
|---|---|---|---|---|
| By age | Less than 6 months | 6 to 8 months | 9 to 11 months | Total stunting |

| | | | | |
|---|---|---|---|---|
| Normal≥ -2SD to<+2SD | 84 (70.0%) | 50 (84.7%) | 58 (86.6%) | 192 (78.0%) |
| Moderately stunted≥-3SD to <-2SD | 21(17.5%) | 6 (10.2%) | 2 (3.0%) | 29 (11.8%) |
| Severely stunted< -3SD | 15 (12.5%) | 3(5.1%) | 7(10.4%) | 25(10.2%) |

**Underweight**

About 22.0 per cent of all the children in the study had low weight for their age, with only 17.9 per cent originating from boys. In addition, the age group 9-12 months had the majority of severely malnourished children (7.5%) of the featured groups (Table 1).

**Initiation of Breastfeeding**

According to the findings in this study, the number of infants that were initiated to breast milk within the first hour by the young mothers was (62.2%) while (37.8%) were initiated after one hour of birth (Table 4). Furthermore, the mothers who initiated after one hour (37.8%) reported no milk (9.8%) and cultural influence (1.6%) as the reasons for late initiation.

**Exclusive Breastfeeding to Children below Six Months**

The World Health Organization recommends children below six months of age be only breastfed for the first six months to promote optimal growth, development and health (WHO, 2008). In this study, exclusive breastfeeding was half (50%) among the infants aged below six months. Other liquids that were given besides breast milk included; water (7.7%), sugar and water (7.3%) and salt and water (1.6%). Some of the reasons given for the early introduction of liquids included; the mother had no milk (9.8%) and were advised by the health worker (2.0%) despite policies and guidelines against the early introduction of other feeds.

**Continued Breastfeeding at 12 Months**

Continued breastfeeding prevalence at 12 months among the infants was 5.5 per cent.

**Table 3: Breastfeeding Practices**

| **Breastfeeding practices (N=246)** | **Frequency** | **%** |
|---|---|---|
| **Infant initiation to breast milk (0-12 months)** | | |
| After one hour | 93 | 37.8 |
| Within the first one hour | 153 | 62.2 |
| **Foods given in the first hour** | | |
| Plain water | 19 | 7.7 |
| Salt and water | 4 | 1.6 |
| Sugar and water | 18 | 7.3 |
| Cow's milk | 1 | .4 |
| Nothing given | 239 | 97.2 |
| **Reason for giving other fluids before 6 months** | | |
| The baby was crying | 7 | 2.8 |
| Had no milk | 24 | 9.8 |

| | | |
|---|---|---|
| Advised by the health worker | 5 | 2.0 |
| Cultural/religious reasons | 8 | 3.2 |
| Reason not given | 202 | 82.2 |
| **Exclusive breastfeeding under six months** | | |
| Exclusively breastfed | 123 | 50.0 |
| Not exclusively breast fed | 123 | 50.0 |
| **Continued breastfeeding at 12 months** | 13 | 5.5% |

**Association between Exclusive Breastfeeding and Nutritional Status**

The nutritional status based on underweight, wasting and stunting showed no association with exclusive breastfeeding. Most infants (50%) were given breast milk alone without other substitutes for a period of six months (chi-square test; p = 0.000) (Table 4).

**Table 4: Association between Exclusive Breastfeeding and Nutritional Status**

| Variable | Exclusive breastfeeding | | P-value* |
|---|---|---|---|
| | Exclusive | Not exclusive | |
| **Wasting** | | | |
| Moderately wasted | 22(17.9%) | 10(8.1%) | 0.001* |
| Severely wasting | 10(8.1%) | 0(0.0%) | |
| **Underweight** | | | |
| Moderately underweight | 12(9.8%) | 30(24.4%) | |
| Severely underweight | 1(.8%) | 11(8.9%) | 0.001* |
| **Stunting** | | | |
| Moderately stunted | 24(19.5%) | 5(4.1%) | 0.001* |
| Severely stunted | 22(17.9%) | 3(2.4%) | |

**Breastfeeding Practices**

Breastfeeding is important for the physical closeness and emotional bonding between the mother and the infant and enables the full growth and development of the child (WHO, 2018). This study's findings showed that most infants were introduced to the breast within one hour of birth. Furthermore, the mothers who initiated after one hour cited no milk and cultural influence as the reasons for late initiation. This study agreed with that of Kabwijamu (2016) in Uganda and Kenya Demographic Health Survey (2014), where initiation within the first hour was 71 per cent and 62 per cent, respectively. However, these results differed from that of Olodu et al. (2019), where a higher number of infants were initiated within the first hour at 87 per cent. This was because most young mothers attended post-natal care and were able to receive information on infant feeding.

**Exclusive Breastfeeding Under Six Months**

Compared to the national rates of exclusive breastfeeding rates of 61 per cent by the Kenya Demographic Health Survey (2014), this study found that the rates were lower at 50 per cent. The results were higher than that of Olodu et al. (2019), where only a few of the young mothers exclusively breastfed their infants at 31.9 per cent. However, an analysis of the distribution of breastfeeding by age groups of the infant

showed a decrease in exclusive breastfeeding rates. It was highest for infants below six months and lowest for those aged 6 – 8 months. This could be because of the health talk by the health providers on the importance of exclusive breastfeeding.

**Nutritional Status of the Infants below 12 Months**

The prevalence of wasting (17.1%), stunting (22.0%) and underweight (19.1%) were above that reported in the KDHS 2014 where wasting, stunting and underweight for children 6-59 months were 4.0 per cent, 26.0 per cent and 11.0 per cent respectively. The findings of this study were also higher than that of Wemakor et al. (2018) in Ghana, except for stunting, which was lower. The findings were also similar to the County Health report (2018), where stunting was 27.2 per cent, severe stunting was 7.7 per cent, underweight was 18.9 per cent, and severe underweight was 2.6 per cent. This could have been contributed by the fact that young mothers are not ready for childcare, hence contributing to the high prevalence of malnutrition.

This was also similar to the Narok County Health report (2018) where boys had a higher malnutrition level than girls. The malnutrition among the male children could be because of food preference, serving more food in favour of a girl child. This finding agreed with the findings of Nguyen (2017) showing that malnutrition is a public health issue that needs to be addressed among infants of young mothers. Further, teenage motherhood is also a contributing factor in the malnutrition of their children as they are not ready to shoulder the childcare responsibilities of childcare.

The association between meal frequency, breastfeeding and nutrition status was established. Most infants met this recommendation and thus had a good nutritional status. The three indices in this study showed a significant relationship with dietary diversity. In a study finding by (Olodu et al., 2019) in Nigeria, breastfeeding had an association with lower stunting and underweight among the children. Also, this study agreed with the finding of (Olodu et al., 2019), where breastfeeding for six months without the introduction of other foods resulted in lower wasting among the infants and concluded that infants who did not receive appropriate feeding had higher odds for wasting, stunting and underweight.

## 5.0 CONCLUSIONS AND RECOMMENDATION

**Conclusions:** The majority of infants were still breastfeeding at the time of the study. Early initiation of breastfeeding (within 1 hour) was prevalent among the infants, with those that were exclusively breastfed being half of the infants aged less than 6 months old. Almost all of the infants 6-8 months old had been given solids, semi-solids and soft foods. The majority of the breastfed children 9 to 12 months old met the recommended meal frequency. The children who were not breastfeeding and met the recommended meal frequency were 6 to 12 months old. The study has demonstrated that the dietary diversity of the infants was generally good. Despite the good dietary diversity, it reported most of the infants had poor nutritional status. However, morbidity incidence among the infants was noted to be low. Additionally, the importance of exclusive breastfeeding was highlighted through the positive association between exclusive breastfeeding and nutrition status.

**Recommendation:** The study recommend that research should be replicated especially to compare the nutrition status of infants of adult mothers with that of young mothers in the same study area.

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