

Maternal Infant Feeding Knowledge And Dietary Diversity Of Children's Diet Born Of Hiv-Positive Mothers, In Narok County, Kenya

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Abstract

Despite progress in the prevention of mother-to-child transmission (PMTCT) of HIV, children still acquire HIV infection (Frange et al., 2021), in 2020, the world had 31.6 million HIV positive people and sub-Saharan African countries had 83% pregnant women, 80% infants with HIV, and 78% of teenage women 15-24 years newly infected. Kenya had 1.4 million HIV positive people a prevalence rate of 4.5% and 5% in Narok County. Breastfeeding, especially early and exclusive breastfeeding, is one of the most important ways to improve infant survival (WHO, 2023c). However, the complementary feeding period, from 6 to 23 months of age, is one of the most challenging times to meet children's nutrient demands. While children's stomachs can only hold a small amount of food, their nutrient needs reach a lifetime peak leaving them vulnerable to growth faltering (Almasri et al., 2020). The overall objective of the study was to determine maternal infant feeding knowledge and dietary diversity of children's diet born of HIV-positive mothers, in Narok County, Kenya

The research was a cross-sectional analytical study and involved HIV+ mothers and their babies aged 0 – 23 months, purposively selected. A defined questionnaire was utilized for socio demographic indicators (e.g. age, marital status), anthropometry assessment (e.g. weight, Height) and secondary data/ hospital records. Through simple random sampling, mother baby pairs were generated by use of a computer and SPSS version 22.0 was utilized to analyse data. Socio-economic and demographic characteristics were analyzed using descriptive and inferential statistics.

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I. Introduction

Mother-to-child transmissions (MTCT) accounts for 90% of the 370 000 new HIV-positive children, globally (Elkhatiali & Jeena, 2022). Poor adherence to antiretroviral therapy (ART) in mothers and their infants, poor counselling, failure to attend antenatal and postnatal care are some of the challenges experienced (Calder et al., 2020). HIV positive children continue to be a major public health challenge, with 120 000 children dying from HIV-related illnesses in 2016 (WHO, 2023a). In 2017, 93% of HIV-positive women in sub-Saharan Africa had commenced ART, which resulted in a decreased rate of HIV MTCT from 18% in 2010 to 10% in 2017 (Elkhatiali & Jeena, 2022). Early ART initiation for HIV-positive children enables a good prognosis (Frange et al., 2021). The target for elimination of HIV was reducing the final HIV transmission rate to 5% or less among breast-feeding mothers and to 2% or less among non-breast-feeding mothers by 2020 and zero new infections by 2030 (Gebremariam et al., 2024). While the combination of ART and Exclusive breast feeding (OEBF) has proven effective in reducing HIV transmission to less than 1% but challenges arise in maintaining consistent ART with EBF breastfeeding (Augustino et al., 2023). Mothers or infants who have been receiving ARV drug prophylaxis should continue prophylaxis for 1 week after breastfeeding is fully stopped (Folson et al., 2024). The number of children living with HIV in Kenya fell from 180,000 in 2010 to 111,500 in 2020, partly because of improved access to services, including for more pregnant women (UNICEF, 2020) (UNAIDS), 2024)

Optimal nutrition for infants is vital for their development, particularly during the critical first 24 months of life (J. A. Scott, 2020). The period sets the foundation for healthy growth and development, ultimately having a positive impact on future generations (Bhandari & Chowdhury, 2016). The World Health Organization (WHO) recommends Exclusive Breastfeeding (EBF) for the first six months, complementary feeding for up to 12 months, and continued breastfeeding for up to 24 months (WHO, 2024). However, the estimated rate of EBF is 41% in Sub-Saharan Africa (SSA), with vast regional variations (K. Y. Ahmed et al., 2020). The triple burden of malnutrition is as a result a shift towards diets characterized by refined and processed foods that are high in sugar, fat and salt, and low in nutrient density (Batal et al., 2019). This leads to increased caloric consumption, especially

in urban areas in low- and middle-income countries, resulting in rising rates of childhood overweight, obesity and micronutrient deficiencies (Almasri et al., 2020). Every year, 64,500 children in Kenya die before reaching the age of five, mostly of preventable causes. Three quarters of these deaths occur before a child's first birthday (Dlamini et al., 2023). Under-five mortality has fallen from 102 deaths per 1,000 live births in 1990, to 43 deaths per 1,000 live births in 2019 (UNICEF, 2020). In Kenya, more than a quarter of children under the age of five, or two million children, have stunted growth. Stunting is the most frequent form of under-nutrition among young children. It has devastating long-term effects, including diminished mental and physical development (Soliman et al., 2021) (UNICEF, 2020). In addition, 11 per cent of children are underweight, with four per cent wasted. Wasting and severe wasting are linked to increased and preventable deaths among young children (UNICEF, 2020).

There is an association between prevalence of HIV in children, poor Child feeding practices especially when the mother is sick from HIV infection. So despite efforts by the Government to provide ART for both mother and children, NGOs providing supplementary foods for the affected households the prevalence of HIV – MTCT continue to increase. The study, objective was to determine the maternal infant feeding knowledge and dietary diversity of children's diet born of HIV-positive mothers, in Narok County, Kenya.

II. Methods

Study design: A cross sectional study design was carried out to investigate the infant feeding practices and the diet quality consumed obtaining quantitative data.

Study population: This constituted 163 mothers. Purposive sampling was utilized to choose Narok county referral hospital and the mothers' child pair attending the PMTCT clinic at the hospital. Through simple random sampling the mother baby pairs (MBPs) were assigned at a ratio of (1:1) into either intervention or control groups. This were 3 people living with HIV (PLHIV) with their children between the ages of 0 – 24 months attending the prevention of mother to child transmission of HIV (PMTCT) clinic at the Narok County. The sample size is based on the HIV+ mothers who are PMTCT clinic clients. The preferred sample magnitude computation was by (Chan, 2003) formula where a two-sided test of 5%, is m (size per group) = $2c/\delta^2 + 1$.

Data Collection Tools: The study used a researcher administered structured questionnaire adopted from FAO guidelines for assessing nutrition (FAO, 2014). Education and counselling on infant and young child feeding (IYCF) in the context of HIV covering the following areas: exclusive breastfeeding feeding for babies 0-6 months, complementary feeding for infants 6-23 months, essential hygiene and sanitation was provided per WHO/ MOH National guidelines (MOH, 2013) (WHO, 2021) (MOH, 2017). Dietary diversity; A diverse diet includes meals consisting of foods from a variety of food groups each day: (1) breastmilk; (2) grains, roots and tubers; (3) legumes, nuts and seeds; (4) dairy (milk, yoghurt, cheese); (5) flesh foods (meat, fish, poultry, and liver or organ meats); (6) eggs; (7) vitamin A-rich fruits and vegetables (carrots, mangoes, dark green leafy vegetables, pumpkins, orange sweet potato); and (8) other fruits and vegetables (Almasri et al., 2020). The WHO recommends that children aged between 6 and 23 months of age should be fed from at least 5 out of a total of 8 food groups (Folson et al., 2024).

Data Analysis: Data was collected by a team of trained enumerators. Before the questionnaires were analysed, they were verified to ensure they are not having any errors or incongruous data. The questionnaires were checked for: completed questionnaires that have responses that are unfinished or uncertain (e.g. no response or two replies for one enquiry); that printed answers are clear; confirm there are no abnormal answers. Some of the analysis that were performed on the data e.g. descriptive analysis was used to obtain means, proportion and frequencies. Inferential statistics e.g. Chi-Square, correlation and multiple regression. To investigate the factors influencing dietary quality, a logistic regression analysis was conducted to identify predictors of achieving minimum dietary diversity (MDD), a validated proxy for dietary quality, among children of HIV-positive mothers. The model included several predictors: child age, composite knowledge score on complementary feeding, child HIV status, education level, relationship to household head, occupation, marital status, religion, child sex, and number of siblings. A composite breastfeeding knowledge score was created to quantify overall knowledge of exclusive breastfeeding practices. This score was based on responses to 11 key knowledge areas, with each correct response receiving 1 point and incorrect or 'don't know' responses receiving 0 points. The areas assessed included awareness of exclusive breastfeeding, its definition, recommended duration, nutritional sufficiency of breast milk, infant digestive capabilities, correct breastfeeding frequency, benefits for the baby and mother, methods for maintaining milk supply, strategies for working mothers, and knowledge of where to seek help for breastfeeding problems.

Ethical Considerations: The Kabarak University Research Ethics Committee provided approval (REF: KABU/01/KUREC/0001/03/02/23) and the National Commission of Science, Technology and Innovation

(NACOSTI) approved the license (NACOSTI/P/23/23874) while the Narok County Referral Hospital management gave permission.

III. Results

Characteristics of study participants from Narok County

A total of 163 HIV-positive mothers participated in the study. Educational levels varied, with 40.5% having completed secondary education while no education was the lowest at (6.7%). The main income sources were diverse, with business (26.4%) being the most common and salaried being the lowest with (6.7%). Most caregivers were married (73.0%) and widowed/separated having the lowest figure of (6.7%). Protestant religious affiliation was the highest (74.2%) and Muslim the lowest at (1.2%). The average number of children per mother was 2.4 (SD = 1.3), and the mean age of the youngest child was 9.4 (SD = 6.0) months.

Table 1: socio-demographic indicators of the mothers attending the PMTCT clinic in Narok County

Variable	All (N=163) n, (%)
Highest educational level	
No education	11, (6.7)
Primary	65, (39.9)
Secondary	66, (40.5)
College/university	21, (12.9)
Main income source for the household	
Casual labour	24, (14.7)
Farming	25, (15.3)
Salaried employment	11, (6.7)
Business	43, (26.4)
Other	60, (36.8)
Caregiver marital status	
Single	33, (20.2)
Married	119, (73.0)
Widowed/separated	11, (6.7)
Religious affiliation of caregiver	
Protestant	121, (74.2)
Catholic	30, (18.4)
Muslim	2, (1.2)
Other	10, (6.1)
Child is positive at baseline	4, (2.5)
Breastfeeding status	
Exclusive	67, (41.1)
Complementary	96, (58.9)
Child is male	85, (52.1)
Child age in months (mean ±SD)	9.42, (±6.0)

Breastfeeding and Complementary Knowledge and practices

Prevalence of exclusive breastfeeding vs. complementary feeding

At the time of the study, among HIV-positive mothers, 36.8% practiced exclusive breastfeeding, while 63.2% had introduced complementary feeding to their infants. Exclusive breastfeeding was reported exclusively among children aged below six months, with a mean age of 2.8 months (SD = 1.8). Conversely, infants receiving complementary feeding had a mean age of 12.8 months (SD = 4.3).

Exclusive breastfeeding knowledge of HIV mothers in Narok County

This study on exclusive breastfeeding knowledge among caregivers of infants aged 0-6 months (n=60) revealed high awareness of basic concepts (Basic concepts included those with high awareness e.g. definition of exclusive breastfeeding - only breast milk feeds for 0-6 months which is the recommended duration), with (98-100%) respondents demonstrating correct knowledge. but gaps in understanding specific benefits and practices. While nearly all respondents (98-100%) were aware of exclusive breastfeeding, its definition (Exclusive

breastfeeding is defined as no other food or drink, not even water, other than breast milk (including milk expressed or from a wet nurse) for the first six months of life, with the exception of oral rehydration salts, drops and syrups (vitamins, minerals and medicines), and recommended duration (0-6 months), fewer than half understood that breast milk alone provides sufficient nutrients (48.3%) or that infants cannot digest other foods before 6 months (45%). Knowledge of benefits was mixed, with high awareness of growth promotion (80%) but very low recognition of protection against diseases (1.7-10%). Understanding of maternal benefits (delays fertility, aids postpartum weight loss, and lowers cancer risks) was generally poor (1.7-35%), except for nutritional importance (Healthy baby, protection against disease) (91.7%). Most knew where to seek help (health facilities) (98.3%) and strategies for working mothers (Expressing breastmilk by hand, storing it and asking someone to give breastmilk to the baby) (90%), indicating good access to support resources from the PMTCT clinic. Table 2 presents a summary of the findings.

Table 2: Knowledge of exclusive breastfeeding among HIV-positive mothers (N=60 - mothers of children on exclusive breastfeeding alone)

Knowledge Area	Correct Response (%)
Awareness of exclusive breastfeeding	100
Correct understanding of exclusive breastfeeding	98.3
Recommended duration of exclusive breastfeeding	98.3
Breastmilk provides all necessary nutrients (0-6 months)	48.3
Babies cannot digest other foods before 6 months	45
Correct frequency of breastfeeding (0-6 months)	86.7
Benefits for baby:	
- Promotes healthy growth	80
- Protects against diarrhea and infections	10
- Protects against obesity and chronic diseases	1.7
Benefits for mother:	
- Delays fertility	35
- Aids postpartum weight loss	1.7
- Lowers cancer risks	1.7
- Improves mother-infant bonding	3.3
Maintaining milk supply:	
- Breastfeeding on demand	8.3
- Importance of maternal nutrition	91.7
Strategies for working mothers to continue breastfeeding	90
Knowledge of where to seek help for breastfeeding problems	98.3

A composite breastfeeding knowledge score was created based on responses to various knowledge areas. The mean knowledge score for the 60 HIV-positive mothers practicing exclusive breastfeeding was 9.55 (SD = 1.11), with scores ranging from 4 to 11 out of a possible maximum of 11.

Analysis of variance (ANOVA) revealed no significant differences in knowledge scores across education levels (F = 0.079, p = 0.924), occupation/income source (F = 0.510, p = 0.767), marital status (F = 1.529, p = 0.225), or religious affiliation (F = 0.388, p = 0.680). These results suggest that among HIV-positive mothers practicing exclusive breastfeeding, knowledge levels were relatively consistent across different demographic groups.

Dietary diversity during complementary feeding of children in Narok County

Dietary diversity among the children was assessed using eight food groups, including breastmilk consumption. The study revealed high levels of breastfeeding continuation, with all participating children (100%) receiving breastmilk. Additionally, nearly universal consumption was noted in staple food categories such as grains, roots, tubers, and plantains, with 99.0% of children incorporating these into their diets (Figure 1).

The study revealed varied dietary diversity among the children. Approximately two-thirds (67.0%) included vitamin A-rich fruits and vegetables in their diets, while slightly over half (58.3%) consumed other fruits and vegetables. Dairy products were consumed by slightly less than two thirds (61.2%) of children. Intake of animal-source foods by 18.4% of children (like meat, poultry, and fish) was relatively low, and eggs was

consumed by 6.8% of child study participants.. Plant-based proteins, including pulses, nuts, and seeds, were consumed by 25.2% of the children.

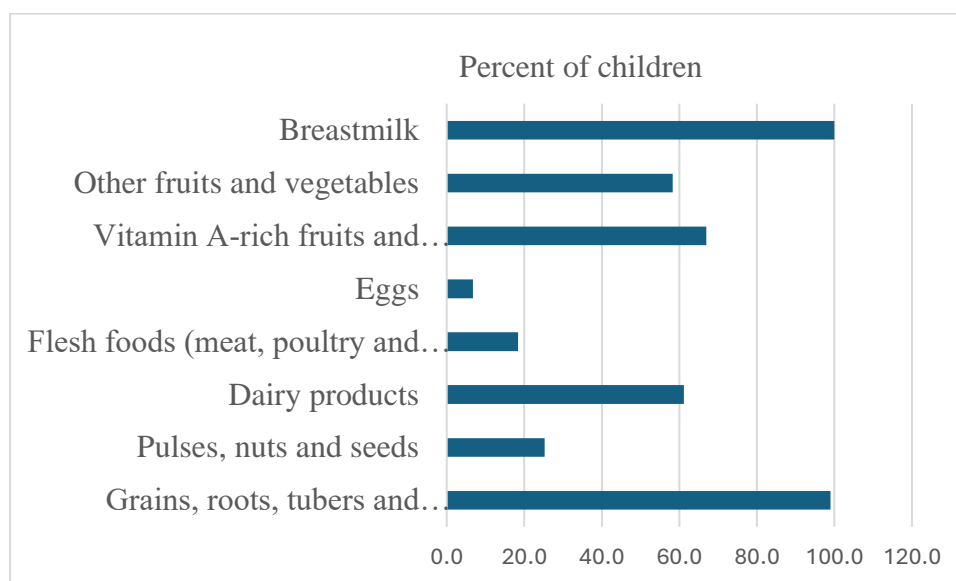


Figure 1: A snapshot of food group consumption among children

The mean dietary diversity score was 4.36 (SD = 1.10) and scores was ranging from 2 to 8 food groups, less than half of the children (43.7%) met the minimum dietary diversity score of consuming 5 or more food groups. Meal frequency was suboptimal, with only 16.5% of children meeting the recommended minimum meal frequency for their age, indicating that the majority (83.5%) were not receiving meals as frequently as recommended. Only 7.8% of the children got the minimum acceptable diet, a composite indicator combining minimum dietary diversity and minimum meal frequency, meaning that. 92.2% of the children were not receiving a diet that met both diversity and frequency. To determine if this difference was statistically significant, we performed a chi-square goodness-of-fit test. The results showed a significant difference between the proportion of children meeting and not meeting the minimum acceptable diet ($\chi^2 = 46.223$, $df = 1$, $p < 0.001$).

Maternal (HIV +) Breastfeeding and complementary feeding knowledge in Narok county

A substantial majority of respondents demonstrated good knowledge of basic breastfeeding and complementary feeding practices. About 88.3% of mothers were aware of the recommended age to continue breastfeeding, while 91.3% knew the appropriate age to introduce complementary foods (at 6 months). Majority of the mother respondents (95.1%) understood the importance of complementary feeding (Breastmilk alone is not sufficient (enough)/cannot supply all the nutrients needed for growth/from six months, baby needs more food in addition to breastmilk).

On the strategies for enhancing the nutritional value of complementary foods, particularly the commonly used porridge, the knowledge levels were more varied. To assess these differences, we conducted a Cochran's Q test, which revealed statistically significant variations in awareness across different nutritional enhancement strategies ($Q = 117.968$, $df = 5$, $p < 0.001$). Only a few of mothers knew about adding pulses and nuts, while even fewer were aware of the benefits of adding vitamin A-rich fruits and vegetables or green leafy vegetables.

Maternal education level emerged as the only statistically significant predictor of achieving MDD ($p = 0.045$). Mothers with no education were significantly less likely to achieve MDD for their children compared to those with college/university education (OR = 0.010, 95% CI: 0.000-0.356, $p = 0.012$) and mothers with primary education were marginally less likely to achieve MDD compared to those with college/university education (OR = 0.093, 95% CI: 0.008-1.079, $p = 0.058$) (Table 2). The results of the logistic regression analysis are presented in Table 2. The overall model was not statistically significant ($\chi^2_{(20)} = 23.836$, $p = 0.250$), with a Nagelkerke R^2 of 0.314, suggesting that the model explained approximately 31.4% of the variance in achieving MDD.

Table 3: Distribution Logistic regression analysis of maternal factors associated with Minimum Dietary Diversity of the children in Narok County

Variable	Adjusted OR	95% CI	p-value
Education (ref: College/University)			0.045
No education	0.01	0.000 - 0.356	0.012
Primary	0.093	0.008 - 1.079	0.058

Secondary	0.373	0.035 - 3.940	0.412
Child age (months)	1.114	0.981 - 1.265	0.095
Complementary feeding knowledge score	1.61	0.914 - 2.835	0.099

Note: OR = Odds Ratio; CI = Confidence Interval. Only variables with $p < 0.10$ are shown in the table.

Mothers with college or university education compared to those with no formal education were significantly more likely to achieve MDD for their children. Mothers with primary education also showed a lower likelihood of achieving MDD. The difference for mothers with secondary education was not statistically significant (Table 2).

Child age showed a significant positive association with achieving MDD, suggesting that older children were slightly more likely to meet the MDD criteria. Mothers' composite knowledge score on complementary feeding demonstrated a marginally positive association with achieving MDD.

Relationship to household head, occupation, marital status, religion, child sex, and number of siblings, were not statistically significant predictors of achieving MDD.

IV. Discussion

Prevalence of exclusive breastfeeding of children in Narok County

All children between 0-6 months were exclusively breastfed which means 100% coverage and this agrees with another study (Bakare et al., 2023) in Nigeria showing majority of the children (99.0%) were breastfed. It is noteworthy that all infants engaged in exclusive breastfeeding were within the age range typically recommended for this practice of 0-6 months. This is in contrast to another study which noted that exclusive breastfeeding knowledge among caregivers of infants aged 0-6 months revealed mixed results, there was high awareness of basic concepts by nearly all respondents for example high awareness of growth promotion, nutritional importance and where to seek help. Mothers knowledge on breastfeeding is very important as indicated by another study (Prince et al., 2020). However, there were gaps in understanding specific benefits and practices noting that there was very low recognition of protection against diseases and understanding of maternal benefits, this is similar to a report by (UNICEF, 2022) (Cascone et al., 2019). Knowledge levels were relatively consistent and high across different demographic groups irrespective of sociodemographic status and this shows that PMTCT helps mothers maintain high level of knowledge which is important in prevention of infections, this is corroborated by another study (Ramoshaba & Sithole, 2017).

Dietary diversity during complementary feeding of children in Narok County

Dietary diversity of the diet among the children was assessed using eight food groups, including breastmilk consumption. The study revealed high levels of breastfeeding continuation, with all participating children receiving breastmilk. Universal consumption was noted in staple food categories such as grains, roots, tubers, and plantains, with high number of children food incorporating these into their diets. but there were varied dietary diversity among the children beyond staple foods as follows; vitamin A-rich fruits and vegetables in their diets, dairy products, animal-source foods like meat, poultry, and fish was relatively low and eggs, other studies (Guja et al., 2021) have had same results exhibiting gaps in the consumption of essential food groups other than staple item (J. M. Scott et al., 2020) (Kolliesuah et al., 2023). These findings underscore both the presence of diverse dietary practices among the children and notable gaps in the consumption of essential food groups other than staple items (K. T. Ahmed et al., 2023) (Ryckman et al., 2021).

Less than half of the children met the minimum dietary diversity (MDD) score of consuming 5 or more food groups, studies have shown varied result with one (Sisay et al., 2022) showing low figures and another (Solomon et al., 2017) showing a higher value. Current dietary patterns are inadequate with respect to consumption of diverse nutritious food groups (FAO et al., 2020). Increasing the consumption of all nutritious food groups would improve upon this staple food and enhance health (Ziso et al., 2022). These findings underscore both the presence of diverse dietary practices among the children and notable gaps in the consumption of essential food groups other than staple items (K. T. Ahmed et al., 2023) (Ryckman et al., 2021).

Meal frequency was suboptimal, very few of children meeting the recommended minimum meal frequency for their age, indicating that the majority were not receiving meals as frequently as recommended. Low frequency of meals lead to malnutrition (Mekonnen et al., 2017) and therefore infections. The minimum acceptable diet (MAD), a composite indicator for minimum dietary diversity and minimum meal frequency was met by only very few of the children. The low percentage suggests the majority of children were not receiving a diet that met both diversity and frequency recommendations, this is similar to another studies (Aboagye et al., 2021) (Birhanu et al., 2022) which showed low (MAD. This shows that although the services are achieving certain objectives, there is a need for standardization of the nutrition education and counselling.

Knowledge on breastfeeding and introduction of complementary feeding practices were high; awareness on recommended age to continue breastfeeding age to introduce complementary feeds and importance of complementary feeding (Bimpong et al., 2020) (Maingi et al., 2020) (Uusimäki et al., 2023) indicating good

knowledge foundation. Children are highly susceptible to growth faltering, especially between 6 and 24 months of age when breast milk is replaced by low nutrient density foods (Birhanu et al., 2022) and that's why continued breastfeeding and complementary feeding knowledge is very crucial. Strategies for enhancing the nutritional value of complementary foods like porridge need support however, are still low and varied (Harrison et al., 2023).

The study shows that majority of respondents knew about adding energy rich foods but adding vitamin A rich fruits and vegetables was very low (Aserese et al., 2020) (Karlsson et al., 2022). The most widely recognized method was adding energy-rich foods, with about half of respondents aware of this strategy. Adding milk was the second most known method, cited by slightly less than a half of mothers. Incorporating animal-source foods was recognized by about a third of respondents (Gudeta et al., 2022) (Haileselassie et al., 2020). About a third of respondents were aware that giving children attention during meals, talking to them, and creating a positive mealtime environment can promote better eating habits. However, knowledge of specific encouraging techniques was limited. Very few mothers recognized strategies such as clapping hands, making funny faces or playing, demonstrating eating behaviours, using encouraging words or drawing the child's attention as effective methods to encourage eating, a Cochran's Q test revealed that these differences in awareness across strategies were statistically significant ($Q = 252.627$, $df = 4$, $p < 0.001$), (Mahmood et al., 2021) (WHO, 2023b) give reference to similar findings. This highlights a critical need for improved infant and young child feeding practices in this population (Adhikari et al., 2021.) These results suggest a need for more comprehensive education on diverse nutrient sources for complementary feeding (Codjia et al., 2024).

Recognizing signs of undernutrition in children in Narok County

Recognizing signs of undernutrition in children was varied where most mothers recognized loss of weight and only very few recognized growth faltering. Loss of weight or thinness was the most widely recognized sign, identified by mothers. Weakness of the immune system was the second most recognized indicator. That was the same for mothers who recognized lack of energy or weakness as a sign of undernutrition and awareness that children not growing as they should (growth faltering) could indicate undernutrition. Another study (Lindberg et al., 2022) noted that only severe forms of acute malnutrition were recognized by mothers.. Difference in demographic groups did not affect knowledge level which might mean that there was uniformity in education/counselling at health facilities. The study noted that maternal education level is a crucial factor in achieving minimum dietary diversity and this is corroborated by other studies which identified that maternal education tends to be higher for children with good nutrition and vice versa (Seyoum et al., 2024) (Lindberg et al., 2022) (Asif & Akbar, 2023).

Comparison of knowledge scores Across demographic groups

ANOVA conducted to examine potential differences in complementary feeding knowledge across various demographic characteristics with composite knowledge score on complementary feeding was used as the dependent variable revealed no statistically significant differences in knowledge scores across religious affiliations ($F(3, 99) = 1.161$, $p = 0.328$), educational levels ($F(3, 99) = 0.096$, $p = 0.962$), occupations ($F(6, 96) = 0.824$, $p = 0.554$), or marital statuses ($F(2, 100) = 0.808$, $p = 0.449$).

These findings suggest that knowledge about complementary feeding practices among HIV-positive mothers in our study population is relatively consistent across different demographic groups. This consistency implies that factors such as religious background, education level, occupation, and marital status do not significantly influence the level of knowledge about complementary feeding in this particular context. Such results may indicate that information about complementary feeding is being disseminated relatively uniformly across various segments of the population, or that other factors not captured in this analysis might be more influential in determining knowledge levels. Intervention strategies such as educating mothers about the need for exclusive breastfeeding for the first 6 months of life and complementary feeding from 6 to 24 months, is mandatory particularly at the grassroots to ensure optimal nutrition for children aged two and below (Esan et al., 2022).

Factors associated with dietary quality of children born of HIV + mothers in Narok County

The model correctly classified slightly above two thirds of cases overall, with better prediction for not achieving MDD (almost three quarters correct) than for achieving MDD (about two thirds correct).

These findings suggest that maternal education level is a crucial factor in achieving minimum dietary diversity for children of HIV-positive mothers (Agize et al., 2017) (Seyoum et al., 2024). Interventions aimed at improving complementary feeding practices may need to pay particular attention to mothers with lower educational levels (Codjia et al., 2024). The marginal associations of child age and maternal knowledge of complementary feeding with MDD achievement also warrant further investigation. Minimum acceptable diet is a composite indicator of minimum dietary diversity and minimum meal frequency (Yisak et al., 2020).