

OPTIMIZING EARLY CHILDHOOD NUTRITION: A COMPREHENSIVE GUIDE FOR PARENTS AND CAREGIVERS IN ILLERET WARD, MARSABIT COUNTY, KENYA

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ABSTRACT

In Kenya, particularly in arid areas, early child nutrition has remained a challenge especially in Marsabit County. Illeret ward, one of the administrative units of Marsabit County has reported the highest incidences of malnourishment especially in children classified in the early childhood status. This raise concerns on the role played by caregivers and parents in this County to optimize early childhood nutrition and the same has remained unclear and unexplored. Thus, this study sought to establish the effect of food diversity, nutrient dense foods, healthful eating and adequate hydration on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya. Descriptive survey design was adopted targeting 900 mothers with children aged 1-8 from Illeret Ward, Marsabit County. Stratified random sampling was used to select 269 respondents with their respective gender as strata. Information in its primary form was gathered guided by questionnaire and the analysis was through SPSS guided by means correlation and regression and tables guided presentation. It was noted that nutrient dense foods ($\beta=0.439$) had the greatest positive effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya then followed by food diversity ($\beta=0.322$), adequate hydration ($\beta=0.198$) and healthful eating ($\beta=0.185$) respectively. It was recommended that parents and caregivers in Illeret Ward, Marsabit County, Kenya should enhance early childhood nutrition by providing their children with foods having different nutritional contents. Different types of food being proteins, carbohydrates and fruits should be provided to children by caregivers and parents in Illeret Ward, Marsabit County, Kenya to create balanced diet and thus eliminating possibility of malnutrition. Adequate and

healthful foods should be provided to children in Illeret Ward, Marsabit County, Kenya by their parents and caregivers to ensure healthful growth and development.

Keywords: Food Diversity, Hydration, Healthful Eating, Nutrient Dense Foods, Optimization, Caregivers and Parents

INTRODUCTION

There exist differences in meaning of the term early childhood (EC) with some scholars like Maalouf-Manasseh, Oot and Sethuraman (2016) referring to the term as children in the age of 0-23 months. The standard definition of early childhood according to UNICEF (2022) and (Plan International (2023) is that it is a period once a child has been borne to the age of 8 years. This is the period marked by rapid growth and development of the brain and the body of the child. Different opportunities and experiences provided to children during their EC provide foundation of their future growth and in establishment of relationship with others (American Academy of Pediatrics, 2022).

Nutrition is a critical for proper early childhood development and a delicate balancing of the nutritional content and energy needed by children to grow. Right foods should be provided to children so that them realize their full growth potential. For the initial period of 2 years of life of children, breastfeeding is the main source of their nutrition and it prevents them from getting ill while helping in boosting their development of brains (Yoong, Lum, Wolfenden, Jackson, Barnes, Hall & Grady, 2023). It is the recommendation of the World Health Organization (WHO) together with UNICEF that infants ought to be breastfeed exclusively for a period of 6 months with sustained breastfeeding afterwards for the age of 2 years or even beyond. Thus, it is only after the period of 6 months and beyond that children should be introduced to solid food and this should be done with sufficient quantities. Thus, diversity of food, healthful eating, access to nutrient-dense foods and adequate hydration are key critical nutritional imperatives for effective growth and development of children during their early childhood (Yoong et al., 2023).

Caregivers may include parents, nannies, teachers and people working in daycares among other broad range of people. Caregivers have a duty of caring and helping children during their early childhood to ensure they achieve full growth and development. Hence, these caregivers and parents have been bestowed with a noble responsibility of optimizing nutrition to ensure full growth and development of children during their early childhood (Reverri, Arensberg, Murray, Kerr & Wulf, 2022). In doing so, caregivers should seek to ensure that the diet of children during their early childhood comprises of whole grains, vegetables and fruits and proteins. Lack of clear strategies to optimize EC nutrition by their caregivers can result into deficiencies in critical nutrients as well a vitamin and this may adversely affect their immune systems (Center for Disease Control and Prevention, 2022).

In most cases, many caregivers do face a number of challenges included limited funds and knowledge which hinder their ability to fully optimize early childhood nutrition in developing and developed countries around the world. These challenges are even made worse during times

there when conflicts are evident. Nutrition may have direct or indirect implication on EC of children particularly on their development of brain. Behavior of children may be impacted indirectly in to mechanisms: their exploration at childhood level and their interactions with caregivers. Improper nutrition may limit energy possessed by children needed for them to exploit their environment. On the other hand, adequate nourished children may have a lot of energy and vigor demanding more attention from their caregivers compared to the less nourished ones.

Kenya is a developing country in the world with an estimated 25% of her children in the early childhood category being characterized with stunted growth. Stunting is a very serious nutritional problem and it is estimated as high as 46% in arid and semi-arid (ASAL) areas like Marsabit County (UNICEF, 2022). These are areas characterized by drought occasioned by failed rainfalls creating food insecurity problem ultimately culminating in nutritional issues to children in the early childhood category. In Marsabit County, Illeret ward has the highest cases of malnourishment especially among children in the EC category in Kenya (Makori, 2022).

Statement of Problem

Poor nutrition has remained a challenge around the world with an estimated 33% of children in the early childhood category suffering from some forms of malnutrition. Poor early childhood nutrition exposes children to obesity or stunted growth as well as wasting and may increase the risk of infections. In Kenya, particularly in ASAL areas, EC nutrition has remained a challenge especially in Marsabit County. Illeret ward, one of the administrative units of Marsabit County has reported the highest incidences of malnourishment especially in children classified in the early childhood status (Makori, 2022). This raises concerns on the role played by caregivers and parents in this County to optimize early childhood nutrition and the same has remained unclear and unexplored.

The existing studies like Zou, Lybbert, Vosti and Abbeddou (2020) although relevant to early childhood nutrition, they were done in other countries like Burkina Faso away from Kenya. The study conducted by Hurley, Yousafzai and Bóo (2016) were limited to challenges and opportunities of nutrition as far as early child development was concerned guided desk review methodology. All these studies create gaps that were explored and filled by the present that sought to optimize EC nutrition to develop a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya.

Research Objectives

The study was guided by the following objectives:

- i. To determine the effect of food diversity on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya
- ii. To establish the effect of nutrient dense foods on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya

- iii. To analyze the effect of healthful eating on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya
- iv. To examine the effect of adequate hydration on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya

Research Hypotheses

The following hypotheses were tested in this study:

Ho1: food diversity has no statistically significant effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya

Ho2: nutrient dense food has no statistically significant effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya

Ho3: healthful eating has no statistically significant effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya

Ho4: adequate hydration has no statistically significant effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya

LITERATURE REVIEW

Food Diversity and Early Childhood Nutrition

Motadi, Zuma, Freeland-Graves and Mbhenyane (2023) determined the interplay between diversity of diets and nutritional status on EC development children in South Africa. It was noted that inadequate dietary diversity had an implication on the nutritional status of the covered children. The highly consumed groups of foods included vegetables and fruits as well as grains. A study in China by Zhao, Guan, Shi, Zhang, Huang and Wang (2021) indicated that diversity of diet has direct and significant implication on early childhood nutrition. Similar views were noted by the study of Khamis, Mwanri, Ntwenya and Kreppel (2019) in Tanzania where it was apparent that providing diverse diets to children is linked with reduced undernutrition in children.

In a study conducted by Kakwangire, Moss, Matovu, Atukunda, Westerberg, Iversen and Muhoozi (2021), the main focus was on determining the link between diversity of diets and development of children in the context of Uganda. It was noted that dietary diversity of children was linked with child development. In Kenya, Kimiywe, Lubeka and Kiboi (2020) did study focusing on dietary diversity and iron status of children in Emali. It was apparent after analysis that anemia was an issue of public importance among early childhood children. In solving this concern, the paper identified such measures like having in place better methods of preparing food and eating diverse foods.

Nutrient Dense Food and Early Childhood Nutrition

Ortenzi and Beal (2021) focused on providing the implication of diversity of micronutrients on complementary feeding in Asian children. It emerged that eggs, goat and fish among others were the topmost sources of food with multiple priority nutrients then accompanied by yogurt, fresh cow milk and mutton as well as cheese. Hennessy, McCarthy, Chaoimh, Murray and Kiely (2023)

were of the opinion that young children had high incidences of unhealth eating habits.

Healthful Eating and Early Childhood Nutrition

According to Hennessy et al. (2023), health foods for children in the EC category include consumption of grains, reduction in fat in diets, proteins, fruits and vegetables. Various nutrients are available in each of these categories of food when provided to children. For instance, vitamins and fiber as well as water is highly available in vegetables and fruits when provided to children. In grains, children are provided with energy that is required for growth and development. Yogurt, milk as well as cheese provide protein to children needed for their growth (Jackson, Wolfenden, Grady, Lum, Leonard, McCrabb & Yoong, 2020). In the study by Yoong, Lum, Wolfenden, Jackson, Barnes, Hall & Grady (2023), it was asserted that the diet provided to children in their early childhood can influence their development pace. It emerged that healthful eating can have an implication on weight of children. Ogata and Hayes (2014) noted in the United States that caregivers and parents have a critical role play in supporting and promoting healthful eating behavior among children so as to have positive implication on development of children. According to Lott, Callahan, Welker-Duffy, Story and Daniels (2021), too much consumption of sugary foods including beverages can increase the risk of obesity among early childhood children.

Adequate Hydration and Early Childhood Nutrition

Water is one of the healthier drinks especially for early childhood development of children. Sweet drinks like sodas and fruit among others are not healthy for children and they should be limited. This is because their excessive consumption can have an adverse implication on weight gain (Faizan & Rouster, 2020). In the study that was done by Bottin, Morin, Guelinckx and Perrier (2019), it was apparent that most children have urine that is highly concentrated creating an implication that their intake of water is not adequate. Choudhary, Schuster, Brewis and Wutich (2021) borrowed evidence in India arguing that access to suboptimal levels of water is significantly connected with possibility of stunting in children. Li, Shu, Amaerjiang, Xiao, Zunong, Vermund and Hu (2022) did a study with emphasis on status of hydration and the level of physical activity among children in China context. It emerged that sufficient intake of water among early childhood children played a crucial role in their growth and development.

Conceptual Framework

Figure 1 below is the conceptual framework that guided the study:

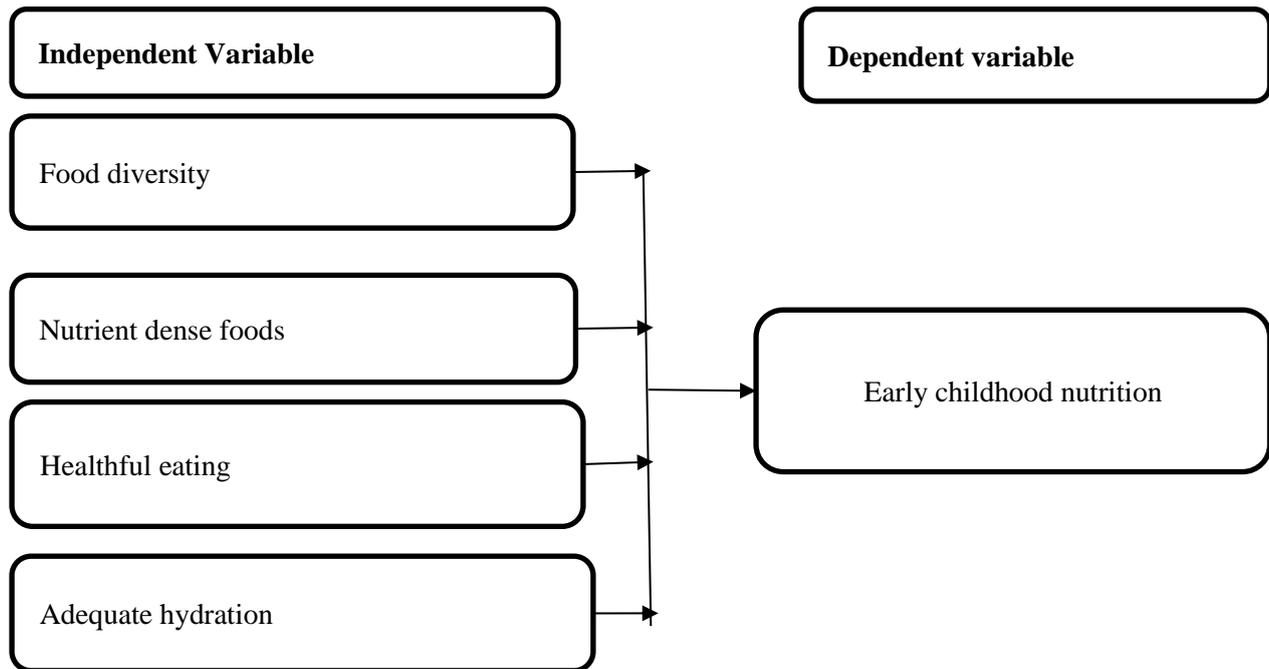


Figure 1: Conceptual Framework

RESEARCH METHODOLOGY

Research Design

Study design is a structure under which a specific inquiry is conducted to meet the formulated goals (Harris, Holyfield, Jones, Ellis & Neal, 2019). It is a plan that shapes the manner in which information in an inquiry is gathered and processed to yield evidence (Strijker, Bosworth & Bouter, 2020). Descriptive survey design was adopted in this study to provide a realistic explanation and description of how to optimize EC nutrition to develop a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya.

Location of the study

The study was done in Illeret Subcounty which is in the larger North Horr Constituency subcounty in Marsabit County in Kenya. The exact location of Illeret Subcounty is in the North part of Kenya. The reason for selecting on Illeret Subcounty as the location of the study is because it has the greatest challenges of nutrition and this was suitable to uncover such issues for suitable policy interventions.

Target Population

Target population includes things, objects and individuals that collectively have observable attributes (Dźwigoł, 2019) that are of greater interest to a researcher. Statistics from Illeret Health Center indicate there are about 900 mothers with children aged 1-8 years visit the hospitals on an annual basis and this formed the target population of the current study.

Sampling Procedures and Techniques

Sampling is selecting elements that are proportional from the targeted population for generalizing

evidence (Eden & Nielsen, 2020). Stratified random sampling was adopted to select respondents forming the study sample. In this regard, caregivers were classified into two categories of male and female on the basis of their gender and a representative sample was drawn from each of the established categories forming the sample. The justification of adopting stratified random method of sampling was because it was deemed to be scientific and each of the participants had an equal opportunity for being selected and included in the inquiry.

Sample Size

There was scientific determination of the study sample size with the formula as borrowed from Kothari (2004) below:

$$n = \frac{z^2 \cdot N \cdot \sigma_p^2}{(N - 1)e^2 + z^2 \sigma_p^2}$$

Where; n=Size of the sample

N=Size of the population

e= Acceptable error given as 0.05

σ_p^2 = the standard deviation of the population and given as 0.5 where not known

Z= standard variation at a confidence level given as 1.96 at 95% confidence level.

$$\begin{aligned} \text{Thus, sample size } n &= \frac{1.96^2 \cdot 900 \cdot 0.5^2}{(900-1)0.05^2 + 1.96^2 \cdot 0.5^2} \\ &= \frac{864.36}{2.2475 + 0.9604} \\ &= \frac{864.36}{3.2079} \\ &= 269 \text{ respondents} \end{aligned}$$

Hence, the sample size of the study comprised of 269 caregivers as determined in the above formula.

Construction of Research Instrument

The study gathered information in its primary form guided by the use of questionnaires which had items designed on a close ended scale. The questionnaire had been designed on sections that revolved around the study objective variables. The reason of structuring of the questionnaire was meant to provide an opportunity for participants to provide responses that were standardized in nature.

Validity and Reliability of the Instrument

The study was tested for validity and reliability through the pilot study. According to Liamputtong (2019), a pilot study can only be done in 1-10% of the study sample. Thus, 3 respondents being

1% of the study sample were selected and included in pilot study through they were secluded from the final study aimed limiting possibility of biasness. For reliability, the value of Cronbach Alpha coefficients was determined and the interpretation was conducted the value 0.7. According to Bougie and Sekaran (2019), such values above 0.7 provide indication that the study tool has reliable scale.

Data analysis Techniques and Procedures

The analysis of the findings in in this study was supported by SPSS software version 26 that was done in the descriptive and inferential basis and presentation was through tables. In aiding the analysis, below model guided the analysis:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where Y is early childhood nutrition

B₀ = Constant

β₁, β₂, and β₃ are Coefficients

ε = error term

X₁= Food diversity

X₂= Nutrient dense foods

X₃= Healthful eating

X₃= Adequate hydration

ε= error term

The interpretation of the findings was aided by p-values at the level 5%.

RESULTS AND DISCUSSION

Correlation Results

The relationship between the study variables was explored through correlation and presented as shown in Table 1 below.

Table 1: Correlation Results

| | | Early childhood nutrition | Food diversity | Nutrient dense foods | healthful eating | Adequate hydration |
|---------------------------|---------------------|----------------------------------|-----------------------|-----------------------------|-------------------------|---------------------------|
| Early childhood nutrition | Pearson Correlation | 1 | | | | |
| Food diversity | Pearson Correlation | .599 | 1 | | | |
| Nutrient dense foods | Pearson Correlation | .713 | .144 | 1 | | |
| Healthful eating | Pearson Correlation | .502 | .023 | .537 | 1 | |
| Adequate hydration | Pearson Correlation | .561 | .005 | .059 | .069 | 1 |

The findings in Table 1 indicate that nutrient dense foods (r=0.713), food diversity (r=0.599), adequate hydration (r=0.561) and healthful eating (r=0.502) were all strongly and positively related with early childhood nutrition. This means that optimization of all these factors would have a strong and positive implication on early childhood nutrition. Motadi, Zuma, Freeland-Graves and Mbhenyane (2023) noted that inadequate dietary diversity had an implication on the nutritional status of the covered children. Zhao, Guan, Shi, Zhang, Huang and Wang (2021) indicated that diversity of diet has direct and significant implication on early childhood nutrition.

Kakwangire, Moss, Matovu, Atukunda, Westerberg, Iversen and Muhoozi (2021) noted that dietary diversity of children was linked with child development. Hennessy, McCarthy, Chaoimh, Murray and Kiely (2023) were of the opinion that young children had high incidences of unhealth eating habits. Yoong, Lum, Wolfenden, Jackson, Barnes, Hall & Grady (2023) asserted that the diet provided to children in their early childhood can influence their development pace. Ogata and Hayes (2014) noted in the United States that caregivers and parents have a critical role play in supporting and promoting healthful eating behavior among children so as to have positive implication on development of children. According to Lott, Callahan, Welker-Duffy, Story and Daniels (2021), too much consumption of sugary foods including beverages can increase the risk of obesity among early childhood children. Choudhary, Schuster, Brewis and Wutich (2021) borrowed evidence in India arguing that access to suboptimal levels of water is significantly connected with possibility of stunting in children. Li, Shu, Amaerjiang, Xiao, Zunong, Vermund and Hu (2022) established that sufficient intake of water among early childhood children played a crucial role in their growth and development.

Regression Results and Hypotheses Testing

The effect between optimization factors and early childhood nutrition was determined through regression analysis and the established findings were summarized as indicated in Table 2.

Table 2: Regression Beta Coefficients and Significance

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|----------------------------|-----------------------------|-------------------------------------|---|-------|------|
| | B | Std. Error | Beta | | |
| (Constant) | .425 | .048 | | 8.927 | .000 |
| Food diversity | .322 | .076 | .153 | 4.237 | .031 |
| Nutrient dense foods | .439 | .170 | .956 | 2.582 | .000 |
| Healthful eating | .185 | .056 | .247 | 3.299 | .000 |
| Adequate hydration | .198 | .059 | .344 | 3.347 | .001 |
| R=0.758^a | R²=0.574 | Adjusted R²=0.554 | Std. Error of the Estimate=0.05600 | | |

The results in Table 2 results into the following predicted model between optimization factors and early childhood nutrition.

$$Y = 0.425 + 0.322X_1 + 0.439X_2 + 0.185X_3 + 0.198X_4 + \epsilon$$

Where Y= early childhood nutrition

ϵ = error term

X₁= Food diversity

X₂= Nutrient dense foods

X₃= Healthful eating

X₃= Adequate hydration

ϵ = error term

From Table 1, it can be noted that the four optimization factors covered in this study (food

diversity, nutrition dense food, health eating and adequate hydration) explained 55.4% variation in early childhood nutrition. In specific terms, nutrient dense foods ($\beta=0.439$) had the greatest positive effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya then followed by food diversity ($\beta=0.322$), adequate hydration ($\beta=0.198$) and healthful eating ($\beta=0.185$) respectively.

Hypotheses Testing

The p-values from Table 2 were used as a basis of interpreting the testing of the formulated hypotheses.

The first hypothesis was that **Ho1** food diversity has no statistically significant effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya. Table 1 indicate p-value under this hypothesis as $p<0.05$ hence it was rejected. Thus, food diversity was a significant predictor of early childhood nutrition. The finding agrees with Motadi, Zuma, Freeland-Graves and Mbhenyane (2023) who noted that inadequate dietary diversity had an implication on the nutritional status of the covered children. A study in China by Zhao, Guan, Shi, Zhang, Huang and Wang (2021) indicated that diversity of diet has direct and significant implication on early childhood nutrition. Similar views were noted by the study of Khamis, Mwanri, Ntwenya and Kreppel (2019) in Tanzania where it was apparent that providing diverse diets to children is linked with reduced undernutrition in children. In a study conducted by Kakwangire, Moss, Matovu, Atukunda, Westerberg, Iversen and Muhoozi (2021), it was noted that dietary diversity of children was linked with child development.

In the second hypothesis, it was asserted that **Ho2** nutrient dense food has no statistically significant effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya. As per Table 1, nutrient dense food had p-value $p<0.05$ hence the hypothesis was rejected. It then followed that nutrient dense food had significant effect on early childhood nutrition. Ortenzi and Beal (2021) focused on providing the implication of diversity of micronutrients on complementary feeding in Asian children. It emerged that eggs, goat and fish among others were the topmost sources of food with multiple priority nutrients then accompanied by yogurt, fresh cow milk and mutton as well as cheese. Hennessy, McCarthy, Chaoimh, Murray and Kiely (2023) were of the opinion that young children had high incidences of unhealth eating habits.

The third hypothesis was that **Ho3** healthful eating has no statistically significant effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya. Table 2 gives the p-value on healthful eating as $p<0.05$ hence the hypothesis was rejected. Thus, it was inferred that healthful eating significantly affected early childhood nutrition. In the study by Yoong, Lum, Wolfenden, Jackson, Barnes, Hall & Grady (2023), it was asserted that the diet provided to children in their early childhood can influence their development pace. It emerged that healthful eating can have an implication on weight of children. Ogata and Hayes (2014) noted in the United States that caregivers and parents have a critical role play in supporting

and promoting healthful eating behavior among children so as to have positive implication on development of children. According to Lott, Callahan, Welker-Duffy, Story and Daniels (2021), too much consumption of sugary foods including beverages can increase the risk of obesity among early childhood children.

The last hypothesis was **Ho4** adequate hydration has no statistically significant effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya. Table 2 gives the p-value as $p < 0.05$ under adequate hydration hence the hypothesis was rejected. Thus, it was asserted that adequate hydration had significant effect on early childhood nutrition. In the study that was done by Bottin, Morin, Guelinckx and Perrier (2019), it was apparent that most children have urine that is highly concentrated creating an implication that their intake of water is not adequate. Choudhary, Schuster, Brewis and Wutich (2021) borrowed evidence in India arguing that access to suboptimal levels of water is significantly connected with possibility of stunting in children. Li, Shu, Amaerjiang, Xiao, Zunong, Vermund and Hu (2022) did a study with emphasis on status of hydration and the level of physical activity among children in China context. It emerged that sufficient intake of water among early childhood children played a crucial role in their growth and development.

Discussion

This study was set out to provide the nexus between food diversity, nutrient dense foods, healthful eating and adequate hydration on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya. The paper has documented that in deed, over half proportionate change in early childhood nutrition is explained by the aforementioned factors or issues. This finding agrees with Yoong et al., (2023) who were of opinion that diversity of food, healthful eating, access to nutrient-dense foods and adequate hydration are key critical nutritional imperatives for effective growth and development of children during their early childhood.

Results of correlation gave an indication that food diversity, nutrient dense foods, healthful eating and adequate hydration were positive correlates of early childhood nutrition. Regression analysis indicated that nutrient dense foods exerted the greatest and significant implication on early childhood nutrition in Illeret Ward, Marsabit County, Kenya then followed by food diversity, adequate hydration and healthful eating. This means that in order to enhance and improve early childhood nutrition of children in Marsabit County, diverse food with dense nutrients should be provided to them. This should also entail healthful eating and provision of sufficient amount of water to them. These findings agree with Motadi, Zuma, Freeland-Graves and Mbhenyane (2023) who noted that inadequate dietary diversity had an implication on the nutritional status of the covered children. Zhao, Guan, Shi, Zhang, Huang and Wang (2021) indicated that diversity of diet has direct and significant implication on early childhood nutrition. Kakwangire, Moss, Matovu, Atukunda, Westerberg, Iversen and Muhoozi (2021) noted that dietary diversity of children was linked with child development. Hennessy, McCarthy, Chaoimh, Murray and Kiely (2023) were of the opinion that young children had high incidences of unhealth eating habits.

Yoong, Lum, Wolfenden, Jackson, Barnes, Hall & Grady (2023) asserted that the diet provided to children in their early childhood can influence their development pace. Ogata and Hayes (2014) noted in the United States that caregivers and parents have a critical role play in supporting and promoting healthful eating behavior among children so as to have positive implication on development of children.

Conclusion

It was concluded that optimization of nutrient dense foods, food diversity, adequate hydration and healthful eating would strongly and positively contribute towards early childhood nutrition. Nutrient dense foods had the greatest positive effect on early childhood nutrition as a comprehensive guide for parents and caregivers in Illeret Ward, Marsabit County, Kenya then followed by food diversity, adequate hydration and healthful eating respectively.

Recommendations

Parents and caregivers in Illeret Ward, Marsabit County, Kenya should enhance early childhood nutrition by providing their children with foods having different nutritional contents. Different types of food being proteins, carbohydrates and fruits should be provided to children by caregivers and parents in Illeret Ward, Marsabit County, Kenya to create balanced diet and thus eliminating possibility of malnutrition. Adequate and healthful foods should be provided to children in Illeret Ward, Marsabit County, Kenya by their parents and caregivers to ensure healthful growth and development. Access to food and water is a universal human right that should be exercised by parents and caregivers in Marsabit County. It is thus imperative for the County Government of Marsabit to invest more in Water, Sanitation and Health (WASH) programs to allow parents and caregivers to ensure children have access to water hence improving hydration which has been established as an enabler of early childhood nutrition.

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