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The Relationship between Dietary Practices and Nutritional Status of Children Aged 24-59 Months in Chitokoloki Ward, Zambezi District, Zambia

Research Article

Nkhoma O[1], Chipili G[1*] and Ukegbu PO[2]

[1]*Department of Nutritional Sciences, School of Applied Sciences and Technology, Mukuba University, P.O. Box 20382. Itimpi, off Chingola Road, Kitwe, Zambia*

[2]*Department of Human Nutrition and Dietetics, Michael Okpara University of Agriculture, Umudike PMB 7267, Abia State, Nigeria.*

***Corresponding author:** Chipili G, Department of Nutritional Sciences, School of Applied Sciences and Technology, Mukuba University, P.O. Box 20382. Itimpi, off Chingola Road, Kitwe, Zambia. Email: chipiligiven@yahoo.com

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Abstract

This study evaluated dietary practices and nutritional status of children aged 24-59 months old in Chitokoloki ward of Zambezi East Constituency, Zambia. A cross sectional study was conducted among 364 children (aged 24-59 months) randomly selected from households in Chitokoloki ward in Zambezi. Socio-demographic information and dietary practices of children were collected from mothers/caregivers using an interviewer-administered questionnaire. A 24-hour dietary recall questionnaire of the child's food consumption during the previous 24-h was used to obtain information on dietary diversity. Dietary diversity scores <5 indicated minimum dietary diversity (MDDS). Anthropometry of children were measured and Height-for-age (HAZ), weight-for-age (WAZ), Weight-for-height (WHZ) and body mass index-for-age (BAZ) Z-scores were used to determine nutritional status using WHO Anthroplus software. Chi square and logistic regression were used to determine the relationship between dietary practices and nutritional status at p value less than 0.05. The findings revealed that dietary practices of the children were poor as depicted by consumption of <3 meals daily (32.9%) and low dietary diversity score <5 (69.8%). The prevalence of wasting, stunting, underweight, obesity were 11%, 26.5%, 15.0%, and 5%, respectively. Dietary practices were not significantly associated with anthropometric status of the children (p>0.05). This study recommends the need for nutritional interventions and education to promote a more balanced and diverse diet among these children.

Keywords: Dietary Practices; Feeding Practices; Nutritional Status; Malnutrition; Under Five Children

Introduction

Malnutrition poses a significant public health challenge, particularly among children under five, in many low- and middle-income countries, including Zambia. Malnutrition is a condition that results from insufficient or excess intake of nutrients, as well as micronutrient deficiencies [1]. There are various types of malnutrition, encompassing two overarching categories: undernutrition and overnutrition. Undernutrition presents as either wasting or low weight for height (acute malnutrition), stunting or low height for age (chronic malnutrition), underweight or low weight for age, and deficiencies or excesses in minerals and vitamins [2]. Over nutrition includes overweight, obesity and diet-related non-communicable diseases (NCDs) such as diabetes mellitus, heart disease, some forms of cancer and stroke [2]. The immediate consequences of malnutrition in young children include cognitive impairment, potentially irreversible, and the risk of non-communicable diseases in later life. Additionally, malnutrition can weaken the body's ability to combat infections, impair wound healing, and disrupt the regulation of salt in the kidneys, potentially leading to issues of overhydration or dehydration [3].

In 2022, global statistics revealed that among children under five years old, approximately 22.3 percent were stunted (148.1 million), 6.8 percent were wasted (45 million), and 5.6 percent were overweight or obese (37 million) [4]. Stunting and wasting were more prevalent in rural areas, with stunting being 1.6 times higher and wasting 1.4 times higher compared to urban areas, while the prevalence of overweight was only slightly higher in urban children (5.4 %) than in their rural counterparts (3.5 %) [4]. In Zambia, data from the 2018 Demographic and Health Survey (ZDHS) reveals that 35% of children under 5 are stunted, with 12% severely stunted. Boys have a higher stunting rate (38%) than girls (31%) [5]. Urban areas show a slightly lower stunting prevalence (32%) compared to rural areas (36%) [5]. Wasting affects approximately 4% of under-five children, with 2% being severely wasted [5]. Wasting rates are similar between boys (5%) and girls (4%). Overweight affects 5% of children under 5, while 12% are underweight in Zambia [5].

The nutritional status of children under the age of five is intricately linked to the dietary practices of their primary caregivers, typically mothers or other family members. However, a lot of children around the world are not eating the nutrient-rich foods they need to grow and develop. Statistics show that globally, 50% if children were not fed the minimum number of meals or snacks recommended each day [6]. More than two 69% were not fed foods from at least five of the eight recommended food groups [6]. Feeding practices of children in Zambia show low intake of protein rich foods and high consumption of carbohydrate rich foods. Their diet is mainly composed of cereals, predominantly maize, starchy roots and, to a lesser extent, fruit and vegetables, [6]. Research in Zambia has demonstrated that mostly children under the age of five exhibit low dietary diversity. For example, a survey of children aged 24 to 59 months in Zambia found that only 29.6% met the minimum dietary diversity [6]. Another study by Alamu et al showed that dietary diversity was low (37.3%) in Zambia [7].

Previous studies have investigated the relationship between dietary practices/dietary diversity and nutritional status of under five children. A recent study by Samosir, Radjiman and Aninditya found that the diversity of food consumption (AOR = 1.15; 95%CI: 1.07–1.24) significantly and statistically influenced nutritional status of children age 6–23 months in Indonesia [8]. They noted that higher odds of achieving normal nutritional status, as opposed to being stunted or severely stunted, were linked to adhering to dietary diversity in food consumption [8]. In the study by Motadi and colleagues, a low diversity diet was positively associated with weight for age and height for age, but not with weight for height. As the number of food categories decreased, the likelihood of developing problems with weight for age and height for age increased [8]. Children with a dietary diversity score of less than 4 were significantly at risk of being underweight and stunted compared to those with a score of ≥ 4. However, weight for height did not show a significant association with a reference value greater than 4 [9].

In Zambia, studies on the relationship between dietary practices and nutritional status of children aged 24-59 focusing on a rural setup like Chitokoloki Ward are limited. In view of this, this study sought to investigate the dietary practices of caregivers, the nutritional status of children aged 24-59 months, and the relationship between these variables. By shedding light on these aspects, the research aims to provide evidence-based insights that can guide efforts to reduce malnutrition, enhance child health outcomes, and ultimately contribute to the well-being and development of young children in Chitokoloki Ward and similar rural communities in Zambia.

Materials and Methods

Study design and area

This cross-sectional descriptive study conducted from February to April was conducted to assess dietary practices and nutritional status of children 24-59 months in Chitokoloki ward, located in the Zambezi East constituency of Zambezi District, Zambia.

Study participants

The study participants mother/caregivers with children aged 24-59 months selected from households in Chitokoloki ward.

Sample Size Determination and sampling technique

Sample size was calculated based on a single proportion population formula Z2×p (1-p) /d2 as follows; Z is standard normal deviation set at 1.96 corresponding to 95% confidence interval (CI) and p; p is the estimated proportion of children aged 24-59 months old in northwestern province of Zambia who are stunted (32%) (11); and d is the desired level of precision (0.05) Therefore, n = [(1.96)2 (0.32) (0.68) / (0.05)2] = 3.8416 x 0.32 x 0.68/0.0025= 0.83593216 / 0.0025 = 334.27= 334. Hence, a minimum sample size of 334 was calculated and a 10% attrition rate was added to obtain a sample size of 367.Households with mothers/caregivers and their children aged 24-59 months old were selected using a random method. Stratified random sampling was used to divide Chitokoloki ward into strata and then random selection of the households from the different sections was done using systematic random sampling.

Data collection

A researcher-administered questionnaire was used to collect quantitative data on demographic and socio-economic characteristics of the households, dietary practices, dietary diversity and qualitative 24hour recall. The questionnaire was pre-tested on a group of mothers/caregivers in a non-sampled ward in Zambezi east constituency on 37 mothers with similar characteristics to the sampled study population.

Questionnaire: Structured questionnaires were used to collect information on socio-demographic characteristics of mothers/caregivers. The questionnaires were administered by trained research assistants and researchers to mothers/caregivers with children 24-59months old in the households. A total of 367 questionnaires were distributed and 364 retained, representing a 99.2% response rate.

Anthropometric measurements and indicators: Anthropometric assessment for each child were determined following standard procedures. Measurements were taken in triplicate for height and duplicate for weight using calibrated equipment before finding the average in line with UNICEF regulations [10]. Measures included standing height, weight and mid-upper arm circumference [11]. Height was measured to the nearest 0.1cm using a ASECA 217 portable stadiometer; and weight to the nearest 001 kg on a standardized Mechanical Salter scale and SECA scale.The anthropometric status of the children was categorised by using the appropriate cut-offs for classification established by the World Health Organization [12]. Measurements of weight and height were converted to age and sex-specific z-scores to establish anthropometric status, according to the

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World Health Organization Anthro [13]. For underweight, wasting and stunting, the cut-off marks were >-2SD. The cut-off value for malnourished was <13.5cm.

Dietary practices: Dietary practices were assessed using the dietary diversity score and the number of meals eaten daily by the children.

Dietary Diversity: Dietary diversity score was calculated based on 24 h recall of mothers of the child's consumption of 8 food groups within the past 24 h (Food and Agriculture Organization, 2007). The foods consumed by children the day before the survey were classified into the following seven food groups according to WHO protocol (17) as follows:

(1) breast milk

(2) grains, roots and tubers and plantains

(3) pulses (beans, peas, lentils) seeds and nuts

(4) daily products (milk infant formula, yoghurt, cheese)

(5) flesh foods (meat, fish, poultry, organ meets)

(6) eggs

(7) vitamin A-rich fruits and vegetables (leafy green vegetables, yellow fruits and vegetables)

(8) other fruits and vegetables (12). A DDS of 5 was considered as the minimum DDS. Accordingly, a child with a DDS of less than 5 was classified as having low dietary diversity.

Statistical Analysis

Data was analyzed using Statistical package for Social Sciences (SPSS) software version 26. WHO Anthro was used to calculate WHZ (wasting), HAZ (stunting), WAZ (underweight) and BAZ (overweight/obesity). Descriptive statistics (frequencies, percentages, means and standard deviation) were computed for socio demographics and dietary practices. Chi Square analysis and Logistic regression analysis were used to assess the relationship between dietary practices and nutritional status at p-value less than 0.05.

Ethical Approval

Approval for the study was obtained from the Tropical Diseases Research Centre (TDRC) in Ndola Zambia with ethic approval number 00003729.

Results

Characteristics of children and mothers/caregivers

Results on (Table 1) revealed that characteristics a total of 364 under five children were recruited to participate in this study. The study had more female (52.5%) than males (47.5%) children. About a third (35.7%) of the children were aged between 49-59 months old. The findings demonstrated that roughly half of the children (50.5%) possessed a Birth weight ranged from 3.1 to 4.0 kilograms (50.5%), majority were exclusively breastfed (98.9%), 97.5% were immunized and less than half (46.2%) had suffered an illness in the past one month.

Table 1: Characteristics of children and their mothers/caregivers (N=364).

Variable	Values	Frequency	Percent (%)
Sex	Male	173	47.5
	Female	191	52.5
Age of children (months)	24-36	143	39.3
	37-48	92	25.0
	49-59	130	35.7
Birth weight (Kg)	< 2.0	6	1.6
	2.0 – 3.0	164	45.1
	3.1 – 4.0	184	50.5
	>4.0	10	2.7
Immunization status	Immunized	355	97.5
	Not immunized	9	2.5
Suffered any illness	Yes	168	46.2
	No	196	53.8
Exclusively breastfed	Yes	360	98.9
	No	4	1.1
Mother/caregiver's age (years)	15 – 20	21	5.8
	21-30	164	45.1
	31-40	149	40.9
	≥41	30	8.2
Mother/caregiver's marital status	Married	213	58.5
	Single	133	36.5
	Separated/divorced	18	5
Mother/caregiver's education	No formal education	66	18.1
	Primary education	211	58.0
	Secondary education	78	21.4
	Tertiary education	9	2.5
Mother/caregiver's occupation	Unemployed	247	67.9
	Farmer	86	23.6
	Civil servant	7	1.9
	Business	22	6.0
	Student	2	0.6
Decision maker on use of money in the house	Husband	197	54.1
	Mother	144	39.6
	Grandmother	13	3.6
	Grandfather	10	2.7
Decision maker on food cooked	Husband	15	4.1
	Mother	339	93.1
	Grandmother	10	2.7

Majority (45.1%) of the Mothers/caregivers were between the ages of 21-30. More than half of them had formal education up to primary education (58%) and were unemployed (67.9%). The majority of the women and caregivers were married (58.5%) and were unemployed (67.9%) and only 23.6% were farmers. Most of the households had husbands/fathers decide how money is used (54.1%) while the mothers/wives decide what is to be eaten (93.1%).

Dietary Practices

Dietary Practices of children: (Table 2) show some of the dietary practices adopted by the mothers/caregivers for their children. Slightly below two-thirds (65.4%) of the children had three (3) meals per day and 41.5% skipped breakfast. Food not being available was the major reason for skipping breakfast (39.1%) and majority of the children were fed on request (73.9%).

Consumption of food from different foods groups: (Figure 1)

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Table 2: Dietary practices of children (N=364)

Variable	Frequency (N)	Percentage (%)
Number of meals eaten per day		
≤2	120	32.9
3 times	238	65.4
>3	6	1.6
Breakfast consumption		
Yes	213	58.5
No	151	41.5
Reason for skipping breakfast (N= 151)		
Food not available	142	39.1
Child does not like eating	6	1.6
Child goes to play	3	0.8
Mode of child feeding		
On demand	95	26.1
On request	269	73.9

shows the frequency of consumption of foods from different foods groups. Results revealed that majority (94.60%) were no longer breastfeeding, while a substantial proportion (88.50%) consumed dark green vegetables daily. All children had cereals and roots (100%) included in their diets, whilst legume and nut consumption were reported by 59.1%. Milk and milk products were notably absent from the diets of most children (80.80%), with only 19.20% incorporating them. Meat and meat products were consumed by approximately two-thirds (66.80%) of the children, while eggs were included by only 17%. Additionally, fruit consumption was relatively low (31.10%), suggesting limited fruit intake among the children.

Dietary Diversity Score of children: (Table 3) shows the Dietary Diversity Score grades of the participants. DDS ranged from 1 to 7 and a DDS of less than 5 was classified as low dietary diversity. Slightly more than two-thirds (69.8%) of the children had low Dietary Diversity Scores, only 30.2% of the children achieved a minimum DDS of more than 5 food groups as recommended by WHO. The table further shows that males (71.7%) had lower dietary diversity scores than the females (68.1%), though this was not significant (p>0.05).

Nutritional status of the children

Nutritional status of children based on sex: (Table 4) shows the anthropometric characteristics of the participants based on sex. The prevalence of wasting, stunting, underweight, obesity and low MUAC were 11%, 26.5%, 15.0%, and 5%, respectively. The prevalence of stunting was higher among male compared to female children (p<0.013).

Nutritional status of the children based on age: (Table 5) shows the anthropometric status of the children based on age (months). Comparison based on age showed wasting and stunting were significantly higher among children aged 24-36 months (p=0.020 and p=0.031), respectively.

Relationship between Dietary Practices and anthropometric Status

Bivariate relationship between dietary practices and nutritional status: (Table 6) illustrates the relationship between dietary practices and nutritional status. While there were slight disparities in the nutritional status of children with low Dietary Diversity Score (DDS) compared to those who met the minimum DDS criteria, such as the higher stunting rate in children with low DDS (28.4%) compared to those with the minimum DDS (22.2%), this difference was not statistically significant (p-value = .224). In summary, the analysis revealed no statistically significant (p > 0.05) difference in nutritional status between children who achieved a minimum DDS and those with low DDS.

(Table 7) investigates the association between Dietary Diversity Score (DDS) and the nutritional status of under-five children, employing binary logistic regression analysis. The key findings are summarized below:

Weight for Height (WHZ): No significant relationship was found between DDS and Weight for Height (p-value = 0.408).

Height for Age (HAZ): The odds of stunting were 28% lower for children with minimum DDS compared to those with low DDS, but this result was not statistically significant (AOR = 0.720, 95% CI [0.424, 1.224]; p-value = 0.225).

Weight for Age (WAZ): The odds of being underweight were 29.6% lower for children with minimum DDS compared to those with low DDS (AOR = 0.704, 95% CI [0.361, 1.375]). However, this result did not reach statistical significance.

Table 3: Dietary Diversity Score of children (N=364)

		Dietary Diversity Score		p-value
	Low DDS (< 5)	**Minimum DDS (≥5)**	**Total**	
Males	124 (71.1%)	49 (28.3%)	173 (100%)	0.453
Females	130 (68.1)	61 (31.9%)	191 (100%)	
Total	**254 (69.8%)**	**110 (30.2%)**	**364 (100%)**	

Table 4: Anthropometric status of the participants based on sex

Variables	Male		Female		Total		p-value
	F	%	F	%	F	%	
Weight for height							0.566
Not wasted (>-2SD)	154	89.0	170	89.0	324	89.0	
Wasted (<-2SD)	19	11.0	21	11.0	40	11.0	
Height for age							0.013*
Not stunted (>-2SD)	118	68.2	151	79.1	269	73.5	
Stunted (<-2SD)	55	31.8	40	20.9	95	26.5	
Weight for age							0.244
Not underweight (>-2SD)	144	83.2	165	86.4	309	85.0	
Underweight (<-2SD)	29	16.8	26	13.6	55	15.0	
BMI for age Z score							0.584
Normal (≥ -2 - ≤+2SD)	165	95.4	182	95.3	347	95.0	
Overweight/obesity (>+2SD)	8	4.6	9	4.7	17	5	
MUAC							0.280
Malnourished (<13.5cm)	34	19.7	32	16.8	66	12.1	
Not malnourished (>13.5cm)	139	80.3	159	83.2	298	87.9	

* Significant at p<0.05 using Fisher's test

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Table 5: Anthropometric status of children based on age

Variables	Age(months)				
	24-36 (N=147)	37-48(N=92)	49-59 (N=125)	Total	p-value
Weight for height					.020*
Not wasted (>-2SD)	122 (84)	86 (93.5)	116 (92.8)	324 (89.0)	
Wasted (<-2SD)	25 (16)	6 (6.5)	9 (7.2)	40 (11.0)	
Height for age					.031*
Not stunted (>-2SD)	97 (67.2)	71 (77.2)	101 (80.8)	269 (73.9)	
Stunted (<-2SD)	50 (32.8)	21 (22.8)	24 (19.2)	95 (26.5)	
Weight for age					.232
Not underweight (>-2SD)	118 (80.7)	81 (88.0)	110 (88.0)	309 (84.9)	
Underweight (<-2SD)	29 (19.3)	11 (12.0)	15 (12.0)	55 (15.0)	
BMI for age Z score					.098
Normal (≥ -2 - ≤+2SD)	141 (97.5)	85 (92.4)	121 (96.8)	347 (95.3)	
Overweight/obesity (>+2SD)	6 (2.5)	7 (7.6)	4 (3.2)	17 (5)	

* Significant at p<.05 using Fisher's test

Table 6: Relationship between dietary practices and nutritional status

	Low DDS		Minimum DDS		Total		p-value
	F	%	F	%	F	%	
Weight for height							0.406
Not wasted (>-2SD)	223	89.9	93	86.9	316	89	
Wasted (<-2SD)	25	10.1	14	13.1	39	11	
Height for age							0.224
Not stunted (>-2SD)	179	71.6	84	77.8	269	73.5	
Stunted (<-2SD)	71	28.4	24	22.2	95	26.5	
Weight for age							0.303
Not underweight (>-2SD)	211	83.7	95	88.0	306	85.0	
Underweight (<-2SD)	41	16.3	13	12.0	54	15.0	
BMI for age Z score							0.203
Normal (≥ -2 - ≤+2SD)	236	94.0	105	97.2	341	95.0	
Overweight/obesity (>+2SD)	15	6.0	3	2.8	18	5.0	
MUAC							0.917
Malnourished (<13.5cm)	31	12.2	97	88.2	44	12.1	
Not malnourished (>13.5cm)	223	87.8	13	11.1	320	87.9	

Table 7: Logistic regression analysis: Relationship between dietary practices and nutritional status

Categories	Outcome Variable	AOR	P-value	95% CI
Low DDS	WHZ	1.00		
Minimum DDS	WHZ	1.343	0.408	[0.669, 2.698]
Low DD	HAZ	1.00		
Minimum DDS	HAZ	0.720	0.225	[0.424, 1.224]
Low DD	WAZ	1.00		
Minimum DDS	WAZ	0.704	0.304	[0.361, 1.375]
Low DD	BAZ	1.00		
Minimum DDS	BAZ	0.450	0.214	[0.127, 1.586]
Low DD	MUAC	1.00		
Minimum DDS	MUAC	0.964	0.917	[0.484, 1.922]

BMI for Age (BAZ): No statistically significant relationship was found between DDS and BMI for Age (p-value = 0.214).

Mid-Upper Arm Circumference (MUAC): No statistically significant relationship was found between DDS and MUAC (p-value = 0.917).

In a nutshell, the analysis indicates that there is no statistically significant association between DDS and Weight for Height, Height for Age, BMI for Age, or MUAC. Although there are observed decreases in the odds of stunting and underweight for children with a minimum DDS, these reductions are not statistically significant in this study.

Discussion

The study assessed the relationship between dietary practices/ diversity and nutritional status of children 24-59 months in Chitokoloki ward, Zambezi District, Zambia. The revealed that 32.9% of the children do not consume up to three meals per day, following

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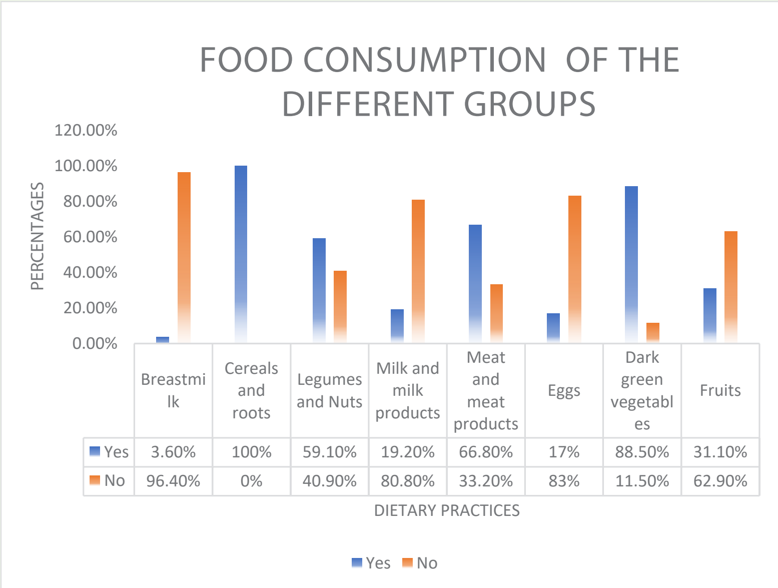

Figure 1: Food consumption from different food groups by the children

a traditional meal pattern that includes breakfast, lunch, and super. More than two third had low DDS with cereals and roots (100%) and consumed dark green vegetables (88.50%) commonly consumed while eggs, milk and milk products and fruits were relatively less frequently consumed. The prevalence of stunting, wasting, underweight and overweight/obesity were 11%, 26.5%, 15.0% and 5%, respectively. The was no significant relation between dietary practices/diversity and anthropometric status.

The practice of children not consuming up to three meals a day as reported in this study is lower than a similar study in Nigeria, which reported 78.9% adherence to three meals per day [23]. Notably, the nutritional quality of these meals was not assessed in this study. Regarding reasons for missing meals such as breakfast, the study found that food unavailability at home was the primary cause of breakfast skipping (39.1%). These findings underline the food security and access challenges faced by a portion of the studied population. This situation has health implications, particularly concerning breakfast's role in providing energy for the day and supporting cognitive and physical function.

The study provided insights into the frequency of consumption of foods from different groups by the children. While dark green vegetables, cereals, and roots were commonly consumed, there was limited inclusion of milk, eggs, and fruits in children's diets. The findings indicate that while carbohydrates are a prominent part of diets of the children, there is a notable lack of diversity in food choices, particularly regarding animal-based proteins (egg and milk products) and fruits. This dietary pattern may have implications for overall nutritional balance and access to essential nutrients from a varied diet. The insufficient consumption of adequate protein from eggs and milk, along with a deficiency in fruit intake among children aged 24-59 months in the community, bears profound implications for their health and development. The amalgamation of protein inadequacy and nutritional gaps from eggs, milk, and fruits contributes to an overall nutritional deterioration, posing multifaceted risks to health and well-being. Furthermore, these early-life nutritional deficiencies can have enduring health ramifications, predisposing individuals to chronic diseases in adulthood and perpetuating public health challenges. These findings align with similar research conducted in various regions, all of which highlight a common dietary pattern among children characterized by a high consumption of carbohydrate-rich foods and limited intake of foods of animal origin, fruits, and vegetables [6,14,15].

The low prevalence of meeting minimum DDS (30.2%) is somehow consistent with previously reported prevalence of 32% in other parts of Zambia (Luapula Province) [16].

The study found that the prevalence of wasting, stunting, underweight, and obesity were 11%, 26.5%, 15.0%, and 5%, respectively. This implies that just over a quarter of the children were short for their age (stunted). Similarly, UNICEF reported that stunting was 30% (23% stunting and 7% severely stunted) in children under-5 years [17]. In addition, Nti and Lartey in their study of under-5 children in Manya Krobo District in the Eastern region of Ghana revealed a stunting rate of 20% lower than the national rate of prevalence [18].

The study's findings indicated variations in the prevalence of malnutrition indicators based on age and sex, with stunting more common in males, wasting highest among the youngest children, and underweight showing no significant sex difference. These results emphasize the need for targeted nutritional interventions for specific age groups and gender to address the nutritional challenges faced by young children in the study population.

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The analysis of the association between dietary practices and the nutritional status of children under five in this study did not reveal a statistically significant relationship (p>.05). Results of this study are consistent with the findings of a study done in Indonesia in which also found no association between feeding practices and the nutritional status of under-five children based on Weight-for-Age (WAZ), Height-for-Age (HAZ), and Weight-for-Height (WHZ) [19]. However, findings from this study differ from those of a survey conducted by Darkwa in Ghana, which identified a significant association between children's nutritional status and their feeding practices [20]. Additionally, another study found that feeding practices did impact the nutritional status of under-five children in Simanjiro District, Tanzania [21]. In summary, this study did not establish a significant link between dietary practices and the nutritional status of children under five in the study area. This could be due to the homogenous distribution of the study the population. Nevertheless, results highlight the variability of such relationships, which can vary across different studies and populations.

Conclusion

This study provides valuable insights into dietary practices and anthropometric status of children under five, as well as the potential relationship thereof. The findings highlighted both positive dietary practices and areas that require attention. The findings showed that dietary practices/diversity was low. It was established that consumption of starchy staples was common with low consumption of protein rich foods required for growth by under 5 children. Furthermore, no relation between dietary practices/diversity and anthropometric status. This study offers valuable insights into the dietary practices and anthropometric status of children under five, shedding light on potential relationships between the two. While positive dietary practices were identified, the study also pinpointed areas that demand attention. This suggests a dissociation between the diversity of dietary practices and the measured anthropometric indicators, emphasizing the need for targeted interventions to address nutritional gaps in the studied population.

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References

1. Zozulyalu A, Rudchenko VV, Shcheglov VI. Hirurgicheskoelechenie-supratentorialnyhgliommeto domrezekciidoleiWHO. Global Nutrition Report [Internet]. Global Nutrition Report.
2. UNICEF. Conceptual Framework on Maternal and Child Nutrition. Nutr Child Dev Sect Program Gr 3 United Nations Plaza New York, NY 10017, USA [Internet]. 2021 Pp: 2-3.
3. Jude CK, Chukwunedum AU, Egbuna KO (2019) Under-five malnutrition in a south-Eastern Nigeria Metropolitan City. Afr Health Sci 19: 3078-3084.
4. WHO (2023) The State of Nutrition: Progress Towards Global Nutrition Targets
5. Central Statistical Office (CSO) [Zambia], Ministry of Health (MOH) [Zambia], ICF. Zambia Demographic and Health Survey 2018: Key Indicators. Rockville, Maryland, USA Cent Stat Off Minist Heal ICF. 2019 Pp: 1-51.
6. ZULU C(2019)Dietary Diversity, Nutrient Adequacy and Nutritional Status Among Children Ages 6-59 Months From Female Headed Households in Luapula Valley, Zambia 19: e01527.
7. Alamu EO, Gondwe T, Eyinla TE, Maziya-Dixon B (2019) Assessment of dietary diversity of mothers and children of 6–24 months from eastern and southern provinces of Zambia. J NutrMetab.
8. Samosir OB, Radjiman DS, Aninditya F (2023) Food consumption diversity and nutritional status among children aged 6-23 months in Indonesia: The analysis of the results of the 2018 Basic Health Research. PLoS One.18: e0281426.
9. Motadi SA, Zuma MK, Freeland-Graves JH, Gertrude Mbhenyane X (2023) Dietary diversity and nutritional status of children attending early childhood development centres in Vhembe District, Limpopo province, South Africa. J Nutr Sci.12: e92.
10. Calderon V, Luz M (2018) 19 Feb 18. 2018. p. 385408.
11. Lee DR , Nieman CD (2010) Nutrition Assessment, 5th ed. 2010. New York: McGraw-Hill Companies
12. World Health Organization (2009) AnthroPlus for Personal Computers Manual: Software for Assessing Growth of the World's Children and Adolescents. 2009 Geneva, Switzerland: World Health.
13. World Health Organization (2007) Indicators for Assessing Infant and Young Child Feeding Practices: Part 1: Definitions: Conclusions of A Consensus Meeting Held 6–8 November 2007 in Washington DC, USA. Geneva, Switzerland: World Health Organization, 2008.
14. Senbanjo IO, Olayiwola IO, Afolabi WA (2016) Dietary practices and nutritional status of under-five children in rural and urban communities of Lagos State, Nigeria. Niger Med J 57: 307-313.
15. Faber M, Benadé AJ (1999) Nutritional status and dietary practices of 4-24-month-old children from a rural South African community. Public Health Nutr 2: 179-185.
16. Marinda, Pamela, A, Chalula, Fred, Khayeka-Wandabwa (2023) Christopher. Dietary diversity and nutritional status of children aged 6–59 months from rural fishing and non-fishing communities in Zambia 19: e01527.
17. UNICEF (2016) Nutrition for Every Child: UNICEF Nutrition Stragety 2020-2030 Pp: 1946-2016.
18. Nti CA, Lartey A (2007) Young child feeding practices and child nutrition facts for Ghanaian families: Nutritional status in rural Ghana. International Journal of Consumer Studies, 31: 326-332.
19. Ika Ratna Palupi, Susetyowati, Reza Meltica and Farah Faza (2019). Feeding Practices and Nutritional Status among Children Under Five Years of Age in Sleman District, Yogyakarta, Indonesia. Pakistan Journal of Nutrition, 18: 888-894.
20. Darkwa, Sarah (2013) An assessment of the nutritional status of under five children in four districts in the Central Region of Ghana. Asian Journal of Agriculture and Rural Development 3: 851-860.
21. Nyaruhucha C, Msuya J, Mamiro P, Kerengi AJ (2006) Nutritional status and feeding practices of under-five children in Simanjiro District, Tanzania Tanzania health research bulletin 8:162-167.
22. Modjadji P, Molokwane D, Ukegbu PO (2020) Dietary diversity and nutritional status of preschool children in north west province, south africa: A cross sectional study. Children 7: 174.

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