

Review Article

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Nutritional Status and Characteristics Associated with Undernourishment for Children Under Five Years

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ABSTRACT

A cross sectional study design was utilized to assess the nutrition status of children under five years and its association with demographic and socio-economic characteristics, food security, water availability, hygiene and sanitation. Caregivers who were present in the hospital provided answers to research interviewers on Open data kit (ODK). The targeted 236 respondents randomly sampled were recruited into the study. The respondents were mothers/caregivers of children between the ages of 6-59 months. Anthropometry data from the survey was analyzed using Statistical Package for Social Sciences (SPSS) and Emergency.

Half of the respondents (52%) were females while men accounted for 48% of the responses with an average age of 27 years. Majority of the respondents (22%) had completed secondary school education with those who did not attend school accounting for the least percentage of 2.1%. The study established that self-employment was the main source of income for households with a prevalence of 34.1%. Salaried employment came second with 30.1% while farming was the least income generating activity with 3.2%. The average household size reported was six with the highest number being 12. The minimum number of occupants in a single household to be recorded was two. Majority of the study population depended on tap water (95.8%), while only a few households used rain water (0.4%). To purify water for consumption, 28% of the residents used chemicals to treat water, 7.6% used traditional herbs to make drinking water safe for consumption. About 11.9% boiled water while the remaining 5.1% attain safety of the drinking water through sieving and filtering. A substantial percentage (70%) of the households in Banadir used flush toilets. Ventilated improved latrines was utilized by 21% of the residents while 9% used traditional pit latrines as their toilet facility.

The percentage of children aged 6-59 months with wasting were 13.3%, moderately wasted (9.7%) and 3.6 % were severely wasted. The prevalence of stunting in children was 30.8%. More than three-quarters (69.2%) of the children aged 6-59 months were normal while 13.8% were moderately and 4.6% were severely stunted. About 9.0% of children aged 6-59 months old were underweight

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Introduction

Malnutrition normally influences on all groups in a community, but newborns and young offspring are the most susceptible because of their high dietary requirements for development and growth. Globally, in 2020, globally, 149.2 million children under the age of 5 years of age were stunted, 45.4 million wasted, and 38.9 million overweight. The number of children with stunting is declining in all regions except Africa. More than half of all children affected by wasting live in Southern Asia and Asia as a whole is home to more than three-quarters of all children suffering from severe wasting. In terms of the targets, at country level, the greatest progress is being made towards the stunting target, with nearly two-thirds of countries seeing at least some progress. In contrast, for overweight, about half of all countries have experienced no progress or are worsening (UNICEF, WHO-WB 2020) [1]. Children below the age of five were stunted, or 26% and 16% were underweight, 8% of the wasting were underweight, while 7% were overweight. Stunting is highly prevalence among children under the age of five in Africa (36%) and Asia (27%) remain a public health

problem, one which often goes unrecognized. More than 90% of the world's stunted children live in Africa and Asia. Children under 5 years and in Somalia, infant and under-five death rates are 77 and 115 per 1000 live births 15355 (21%) and 22739 (31%) observations were from wasted and stunted children, respectively. The conflict was associated with undernutrition independently of the individual, household and environmental factors [2]. Floods and droughts and collapse of institutions/infrastructure. This has resulted in interruptions in livelihood systems, restricted supply of basic services, and a breakdown in the social care network, all of which have had a severe impact on the region's nutrition status. Even in seasons of better food security, a meta-analysis of surveys undertaken in Somalia during the 1980s has consistently found significant levels of acute malnutrition and mortality rates. According to WHO, malnutrition is associated with about half of all child deaths world-wide. Malnutrition among under-five children has serious consequences. Malnourished children have lowered resistance to infection; they are more likely to die from common childhood ailments like diarrheal diseases and respiratory infections, and for those who survive, frequent illness saps their nutritional status, locking them into a vicious cycle of recurring sickness, faltering growth and diminished ability.

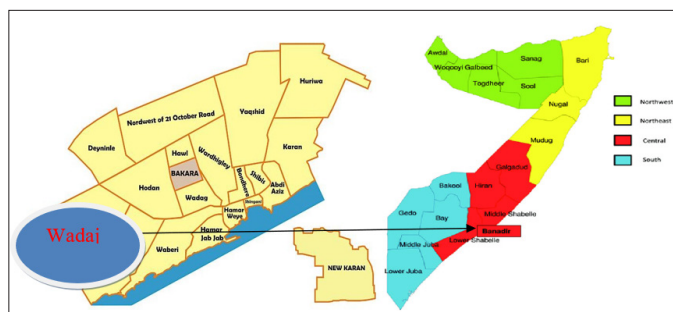
Somalia experiences a Malnutrition is a serious problem among the country's children under the age of five. The country's under-five wasting prevalence was 15% in 2009, higher than the 8.9% national prevalence of under-five in developing countries. Overweight was at 3%, which had reduced slightly from 4.7% in 2006. The countrywide prevalence of stunting in children under the age of five was 25.3%, slightly higher than the developing country average of 25%. The GAM rate in Wadajir is critical at 19.9%, with the Somali national GAM level sitting at 17.4%, the situation in Wadajir is worse compared to the national average. The MAM in Wadajir stands at 8.0% compared with the national MAM figure of 3.2% this shows that there was more MAM for the children in this area than the national data indicated.

Methodology

Study design

The design of this study was cross sectional. It was designed to assess the nutritional status of children under the age of five, as well as its relationship to demographic and socioeconomic characteristics, food security, water availability, hygiene and sanitation, infant and young child feeding practices (IYCF), and immunization and morbidity status of children under the age of five. Caregivers who were present in the hospital provided answers to research interviewers on Open data kit (ODK).

Map of Mogadishu



Study Population

The sampling unit for this study was with children below five years attending or admitted to Banadir hospital Mogadishu and the respondent the principal caregiver of the index child.

Sample Size Determination the study of Children Attending in Banadir Hospital Mogadishu

The sample size was calculated using Fischer's et al. formula as shown below;

$$n = \frac{Z^2 \times P \times Q}{d^2} =$$

Where;

n=required sample size form cross-sectional study.

Z= percentiles of the standard normal distribution corresponding to 95% confidence level which is equal to 1.96.

P = is the expected proportion or percentage of malnutrition children in Banadir region is 19 % (FSNAU technical series report, December 21, 2016):

q = population without the characteristics being measured (1-19%)

d = Degree/ proportion of error that was accepted in the study. This study adopted 5% degree of error (0.05).

$$N = \frac{1.96^2 \times 0.19 \times 0.81}{0.05^2} = \frac{3.8416 \times 0.19 \times 0.81}{0.05 \times 0.05} = 236$$

Sampling Techniques

The sampling procedure which was used for the study area was the purposive sampling. This study was conducted at Banadir Hospital in Mogadishu. However, children Under five years attending in Banadir hospital were selected using systematic random sampling.

Data Collection Techniques Socio-Demographic data

Data was collected through questionnaires, face to face interviews with the mothers. And entered into a mobile phone. Data collected included: gender, age of child, number of children, income of family, education of level of mother and occupation

Date of birth: Each child's date of birth was obtained from the caretaker/mother, cross-checked with immunization cards, and recorded in months.

Nutrition Status of the Index Child

Anthropometric measurements for each child in the study were taken. These measurements included Weight, Height and mid-arm circumference. Anthropometric measurements were taken for children aged (6-59) months to determine their nutritional status as follows.

MUAC (Mid Upper Arm Circumference) anthropometry for specific demographic groups, which are defined as follows: Children from birth to five years of age (Module 2) aligns with the ages covered by the World Health Organization (WHO) Child Growth Standards and refers to children from birth–60 completed months of age. At age 5 years and 1 month, they are no longer compared to the WHO Child Growth Standards.

Immunization and Morbidity Status of Index Child

The data on the index child's morbidity, immunization, and deworming practices was gathered through interviews with the mother or the primary caregiver, with the help of health cards where possible.

Research Tools Questionnaire

A structured questionnaire was used to obtain demographic and socio-economic characteristics The questionnaire was also designed to incorporate collection of data on questions about food production and utilization, dietary diversity, anthropometry and child immunization, and infant and young child feeding practices.

Equipment

Children under the age of five had their anthropometric measures measured. The following tools are used: Salter scale with 0.1 kg accuracy for weight, height/length board with 0.1 cm accuracy for height and length measurement, and MUAC. And the clinic card to check the age.

Data Analysis

The collected digital raw data were exported from ODK server to ONA to an excel file. The collected data was quantitative in nature. It was analyzed using the Statistical Package for Social Sciences (SPSS). "The analysis of the findings was done using descriptive and inferential statistics. SPSS version 20, Emergency Nutrition Assessment for Standardized Monitoring and Assessment of Relief and Transition (ENA for SMART),

and Nutrition survey, 2007 tools were used for data entry and analysis. All variable frequencies were run and tabulated in SPSS to clean the data. In descriptive demographic and socioeconomic analysis, frequencies, means, and standard deviation are calculated using frequencies and cross tabulation.

To define the connections between variables, descriptive statistics such as frequencies and chi-square tests were used to analyze sociodemographic and socioeconomic features. While the ENA for SMART was used to analyze the nutritional status, morbidity, and immunizations characteristics, chi-square was employed to analyze the children's physical growth. Respondents' socio-demographic characteristics, knowledge of feeding patterns, and illness experiences were described using descriptive statistics such as mean, standard deviations, frequencies, and inter-quartile ranges. At the same time, different tests were used to derive inferential statistics. The independent variables and dependent variables were tested for association and strength of association using Pearson's Chi-square t-test and regression.

The difference between the mean of the study participants were tested using ANOVA With a P-value of 0.05, the confidence interval (CI) was established at 95%. In bivariate analyses, Poisson regression was used to calculate odds ratios (OR) and 95 percent confidence intervals (CI) for the relationship between nutritional outcomes and socio-demographic, household cultural, and economic status, as well as dietary intake. A manual backward elimination approach was used in multivariate analyses to reach at the most parsimonious model including factors associated with nutritional outcome among children aged 6-59 months. rom Mogadishu at the significance level of $P \leq 0.05$. A thematic content analysis was performed on the KII data. The categorization of recurrent data collected under thematic areas was part of this approach. The extraction of themes in summary was the next critical step after the notes were arranged. The analysis was done manually using Microsoft Word.

Data Quality Control

Pre-testing was used to validate the questionnaire 236 sample size. During pre-testing and the survey period, the research assistants were closely supervised by the researchers. After entering the data into the computer, frequencies were calculated for each variable to look for outliers that could have occurred due to data entry errors, as well as to ensure that responses were consistent between questions.

Ethical Consideration

Ethical clearance was obtained from the ethics committee of Banadir Hospital and the University of Nairobi, Permission was also be obtained from the Ministry of Health Office and the Hospital Administration. No one was forced to participate in the study, and the identities of those who did were never mentioned in the questionnaire. The participants were advised that they could leave the study at any moment.

Results

The Socio Demographic Characteristics of Primary Caregivers of Children below Five Years at Banadir Hospital in Mogadishu Somalia Slightly more than half (52%) of the caregivers were females, while 48% of the respondents were male. Those who had adult education were 19.9%, those who had attained university education were 17.4%, and those who had dropped out of primary school were 16.5%, while those who had completed primary school were 11.9% (Table 1). Further, those who had dropped out of secondary school were 10.2%. It was noted

that a huge number of caregivers had low levels of education which was seen to have a negative impact on their capability and knowledge to give adequate care to their babies. Of keen interest was the number of mothers who were still in primary and secondary school. The average household size was 6 members with the highest number of members in a household being 12 and lowest being 2.5 ± 2.144 years (Mean $\pm$ SD). About 5.5% of the children were breastfed for 0 to 6 months. Slightly over a quarter of the children (27.1%) were breastfed for a maximum of 11 to 14 Months. About a fifth of the children (19.9%) were breastfed for 6 to 9 months and in 6.4% of the children were breastfed for 9 to 11 months, while 7.4% of the children were breastfed for of 14 to 24 months.

Table 1: Highest level of Education of Mothers of Children Below five Years Banadir Hospital in Mogadishu Somalia

	Percent
Primary drop out	16.5
Completed Primary	11.9
Secondary drop out	10.2
Completed Secondary	22.0
University	17.4
Adult education	19.9
None education	2.1

Figure 1: Frequency of serving food in a day of children under-five years in Benadir hospital in Mogadishu

Food was served four or more times in a day. This was as noted by 69% respondents. Those who mentioned three times observing food were 64%, 26% mentioned serving food two times while 13 mentioned serving food once (Figure 1). It was noted with concern the situation where food was served to children once.

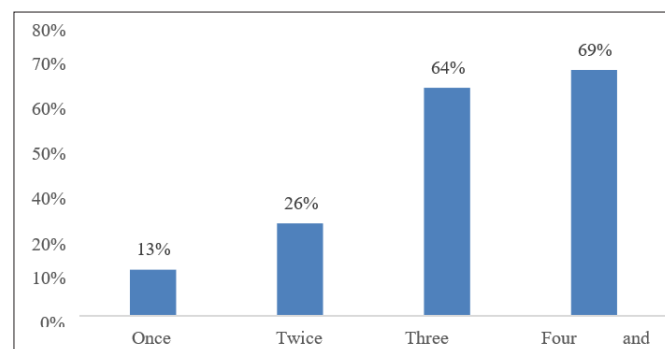


Figure 1: Frequency of Serving Food in a Day

Dietary Diversity Score and Food Consumption Frequency of Children Under five Years in Banadir Hospital in Mogadishu

The mean DDS was 2.9 ± 0.68 , minimum was 1.0 and maximum was 5.0. Majority of the children (83.2%) had eaten food prepared from dairy products. The intakes of vitamin A rich fruits and vegetables were 52%, meats were 58.1% while the consumption of starchy food (79.7%) was from grains, tubers and roots (41.1%), and lower in eggs (45.3%) and least for legumes and other fruits vegetables (59.6%) and (52%) (Figure 2).

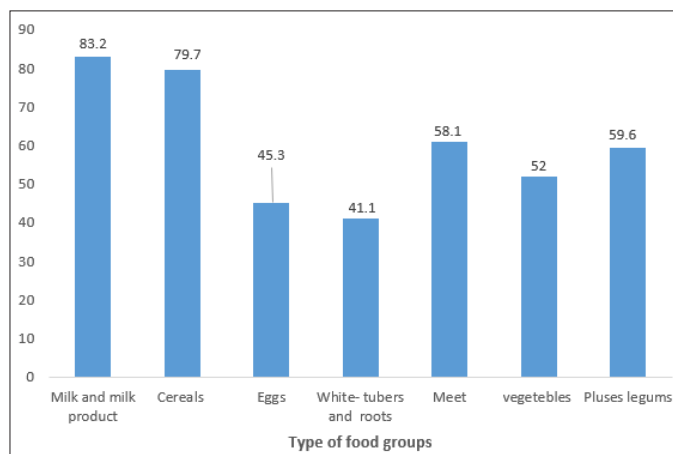


Figure 2: Distribution of Children by Food Group Consumed

Nutritional Status of the Study Children Aged 6-59 Months Wasting

The prevalence of acute malnutrition by gender of the children in Banadir hospital of children 6-59 Months hanging. The prevalence of acute malnutrition was assessed using weight-for-height z-scores and presence of oedema. The prevalence of GAM was 13.3% and 9.7% of the children were moderately malnourished while 3.6% severely malnourished. There was no a significant difference in prevalence of wasting between boys 14.4% and girls 12.2% ($p=0.278$).

Underweight

The total percentage of children in Banadir hospital aged 6-59 months old category underweight was 26.1% 20.8 - 32.2 95% C.I.). The children aged 6-59 months old 13.70% (9.8 - 18.8 95% C.I.) were moderately while 4.1 % (2.1 - 7.8 95% C.I.) severe underweight.

Stunting

The total percentage of stunted children in Banadir hospital aged 6- 59 months old was 30.8 % (25.0 - 37.3 95% C.I.) In the same age category, more than three-quarters (79.4%) of the children aged 6-59 months were normal while 21.8 % (16.8 - 27.8 95% C.I.) were moderately and 9.0 % (5.8 - 13.6 95% C.I.) were severely stunted (Table 2). Morbidity experience of children. About 37.5% of in the seven days leading up to the

poll, respondents said their children had been sick with one or more illnesses. The majority of respondents said it was followed by diarrhea. (37.5%), vomiting (25.0%), cough (20.8%), pneumonia (16.6%), fever (16.6%), constipation (16.6%), lack of appetite (8.3%), nausea (4.2%) and bronchitis (4.2%).

Table 2: Nutritional Status of Children Aged 6-59 Months in Banadir Hospital

Indicators of nutritional status	Prevalence %	95% Confidence interval (CI)
Weight-for-length/height (Wasting)		
Wasting	13.3	9.3 - 18.8
Moderate (<-2 z-score and >=-3 z-score)	9.7	6.3 - 14.7
Sever (<-3 z-score)	3.6	1.7 - 7.2
Length-for-Age (Stunting)		
Stunting	30.8	25.0 - 37.3
Moderate (<-2 z-score and >=-3 z-score)	21.8	16.8 - 27.8
Sever (<-3 z-score)	9.0	5.8 - 13.6
Weight-for-age(underweight)		
Underweight	26.1	20.8 - 32.2
Moderate (<-2 z-score and >=-3 z-score)	13.7	9.8 - 18.8
Sever (<-3 z-score)	12.4	12.4

Distribution of Morbidity Pattern by Nutrition Status of Children Under-Five Years in Banadir Hospital in Mogadishu

A child who was sick last 7 days prior to the survey were not more likely to be wasted than a healthy child (Odds Ratio; 0.937,95%C. I =0.369-2.37). stunted – indicated if the child is sick is more likely to be stunted (Odds Ratio; 1.24, 95%CI =0.519-2.960). Under-weight- be sick if a child is under weight (Odds Ratio; Also, there was likeliness there was no direct relationship between water treatment, use of source of drinking water and nutritional status ($p>0.05$).

Socio-Demographic Factors and Nutritional Status of the Children in Banadir Hospital in Mogadishu

Table 3: Association Between Study Population Characteristics and Nutrition Status of Under-Five Attending Banadir Hospital in Mogadishu

WAZ			HAZ		WHZ	
Some respondents Characteristics	R	P-Value	R	P-Value	r	P-Value
Age in months	-0.005	0.942	0.34	0.638	-0.039	0.598
Sex of the child	0.042	0.52	-0.034	0.602	0.06	0.36
household heads education level	-0.045	0.242	0.036	0.109	-0.052	0.542
Education level of the mother	0.078	0.325	0.126	0.159	0.018	0.845
Household size	0.003	0.958	0.151	0.02	-0.136	0.038
Morbidity status	0.159	0.073	0.036	0.684	.173*	-.040
Water treatment	0.042	0.525	-0.193	0.321	0.182	0.421

Exclusively breastfed	-0.06	0.726	-0.95	0.33	0.236	0.132
Introduction to complementary feeding	-0.042	0.54	-0.057	0.652	0.441	0.069

** Correlation significant at 0.01 levels (2 tailed). *Correlation significant at 0.05 levels (2 tailed); WAZ- weight-for-age z-score, HAZ-height-for-age z-score, WHZ-weight-for- height z-score.

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Table 4: Distribution of Morbidity Pattern by Nutrition Status of Children Under-Five Years in Banadir Hospital in Mogadishu

Child sick in the last 7 days					
	Yes %	No %	P-value	OR	95% C. I
Underweight					
Yes	10.6	89.4	0.529	0.937	0.937-2.37
No	10	90			
Stunting					
Yes	13.3	86.7	1.24	0.519	0.519-2.960
No	11	89			
Wasted					
Yes	10.6	89.4	0.684	0.255	0.255-1.836
No	9.5	90.5			

Immunization Status of the Children

About 58.5% of the children were fully immunized while the rest (41.5%) had not received all the recommended vaccines. All the children had received the OPV0, OPV1 and DPT1 vaccines. Seventy-Six point four (76.4%) received the BCG vaccine.

Discussion

Socio-Demographic Characteristics of Children below Five Years

Majority of the primary caregivers of children under the age of five were females. A finding similar to a study done in Mogadishu, Somalia where women comprised of over 60 % of the population who were mothers/caregivers. The average age of the primary caregivers was 27years. A similar study in observed a mean age of the mothers/caregivers was 28.70 (± 7.88) years. There is also a researcher who observed a slightly older study population (36-50 years) of caregivers possibly contributed by the location of the hospital relative the surrounding town development. This finding indicates that there is a high prevalence of young parents in Banadir area which is relatively less advance than where the other researcher worked. A high percentage of caregivers had low levels of literacy.

Slightly less than a fifth had of the respondents had completed university education. A study in Shabelle zone, Somalia region, observed that 87.5% of the mothers/caregiver, were illiterate. Although the literacy levels are generally low, it might also be region or area of study specific, which might have contributed negatively to their caregiving capability and knowledge.

Nutrition knowledge correlated with inadequate nutritional status their children which probably in this case led to different forms of nutritional deficiencies. A study carried out in Somalia,

found that nutrition knowledge of the correlated with child feeding practices which in turn impacted on the nutritional status of the under-fives.

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The study observed that, less than a fifth of the mothers were unemployed mother's/care givers which is slightly more than another similar study where the researcher observed that 8.6%. A third of the caregivers are self-employed while a researcher in the same country found slightly more than a quarter self-employed. The occupation of the mother plays a significant role in determining her availability for caregiving as well as income for purchase of the required dietary requirements for the child [3].

The average household size was large. This finding is similar to a study in Shinille Woreda, Ethiopia Somalia where 71.8% of the households had more than 5 members and the family size was a significant risk factor of childhood malnutrition as measured by stunting. This finding also agrees with the country's index at 6.2% and Somalia Demographic Health survey, (2020) at household size of 5.3 – 6.2. Large household sizes are negative indicators of under-five nutritional status in a community. The household assets owned by the highest proportion of the respondents were television, motorbike, and cell phones. Mohamed, found that Television, radio and cell phones were the assets that had higher proportion of ownership. These same researcher to find that more than twice the proportion of children from the low wealth index households were malnourished as compared to the high wealth index households Our study results

also agree with. The Somali Demographic Survey (2020), had almost similar findings with cellphone ownership (74.4%) but the television and motorbike were significantly lower at 20.5% and 0.7% respectively. This could mean that if the Somalia community is stratified by ownership of assets the Banadir Somalia region is significantly economically more empowered.

Water Availability, Hygiene, and Sanitation Status of Households of Under Five Years

Majority of the residents of Banadir depended on tap water with the least proportion of respondent's dependent on rain water. The Somali Household Demographic Survey (2020), reported a similar pattern with the majority of the population at 43% had access to piped water coming into their dwellings, yard or plot. The Somalia National Development Plan (2018) emphasizes water availability as a top priority as a public health concern. Half of the population do not treat drinking water and waterborne diseases were also observed to be high, in the study households. Cheraghi (2014), in a similar study observed that many illnesses especially waterborne and food borne correlated with level of water treatment by the population. In the study community, low number of the community using any form of water treatment is a reflection of the low level of literacy and could be confounded by poor hygiene practices besides poverty. Although the majority covered water storage containers, the cleanliness of the storage containers was not assessed. Slightly less than three quarters of the study households in Banadir use flush toilets. Waste disposal is a major determinant in the development of diarrheal diseases among other public health complications. These statistical findings concur with a report by which indicated an increased toilet facility of 57% from 49% in 2019 Somalia countrywide. A relatively lower percentage of the caregivers washed their hands before eating, while very few (less than ten percent) washed their hands after visiting the toilet. This is a contrary finding from an observational study conducted during the survey stipulated that majority of the caregivers washed their hands before feeding their children (The Directorate of National Statistics, Ministry of Planning, Investment and Economic Development & Somalia., 2020).

Dietary Intake of Under- Five Children

Most of the children were not breastfed for the specified 24 months but for slightly over half that period meaning that the breastfeeding practices were suboptimal. Water was the item most frequently commonly given to under-fives in the study population followed by breast milk. Of the several types of foods. Some studies show that often food in form of potatoes and biscuits or porridge (in all live hood zone) are introduced to most children after the 3rd month of life. In households where have difficulties accessing milk. the milk is often replaced with tea or porridge after the third month. water was the most common type that was given while cow's milk comes second. A close type of food consumed is breast milk. Fruits and vegetables are the least consumed foods.

The breastfeeding regime of children under the age of five, however, does not show consistency with the national findings that reported a breastfeeding rate of 45% for children in the same age bracket. These national breastfeeding rates are however, below the World Health Organization reported rates of 74% on the global report. The study established that complimentary feeding was introduced earlier for majority of the children. the study found that there was inappropriate or lack knowledge on proper feeding practices in all livelihood zones.

Although the World Health Organization's recommended age for introduction of complementary feeding after 6 months, This practice is attributed to the new trend of unexclusive breastfeeding. Children between 6-59 months were fed twice a day or less. These results concur with a similar study which was conducted in Somalia and reported the same findings. This practice can be related to the lack of food as a result of low-income levels among caregivers. Breast milk, water and other types of milk were the most common food types fed to children within the last 24 hours prior to the study. Other food types included porridge, vegetables and fruits and other solid and semi-solid foods. The key issue that was noted here was that complementary food besides playing key role in the dietary status of the children was being given to the children much more in comparison to breast milk.

The study observed that majority of the households feed their children inadequate times a day, that is less than 5 times (3 meals and 2 snacks). The frequency of feeding plays a key role in ensuring that they have access to the recommended dietary intake. The majority of the under-fives in this study had an adequate dietary diversity score which was a determinant of access to a variety of foods. The same findings were reported in a similar study conducted in Somalia the frequency of feeding was related to availability of food and a spectrum of feeding difficulties characterized by fussy eating. Low food frequency to children was a predictor in the nutritional status of children. Whereas children require nutrients from food for their growth and development, deprived dietary intake has a negative effect on their dietary status and nutritional status. The study established that most of the study children received Vitamin A supplements as part of enriching their dietary intake. However, the frequency at which the children received Vitamin A supplements was quite low in comparison to the required standards.

Nutritional Status of Children Aged 6-59 Months Wasting in Children Aged 6-59 Months

According to the current study, the percentage of severely and moderately wasted children aged 6-59 months was quite high. Abdullah found a significant frequency of wasting (14.3%) in Mogadishu youngsters in his study. The study's results were also higher than global levels (6.7%), indicating a population at danger of long-term malnutrition [4]. The global percentage of prevalence of wasting as reported by WHO was 7.3% in children under 5 years (Unicef/ WHO/The World Bank, 2019). The Somalia Demographic Health Survey (2020) and According to the Federal Government of Somalia's Directorate of National Statistics (2020), wasting in Somali children might be as high as 28%, particularly among children under the age of six months. Wasting is a symptom of children's poor feeding habits, which can be linked to malnutrition. The region's poor supplemental feeding habits are directly responsible for severe wasting. The high rate of malnutrition could be a reflection of the study area's feeding practices.

Stunting in Children Aged 6-59 Months

The study found low stunting levels in children of the respondent. The figures were lower than those published by the Somalia Demographic Health Survey, which found that 28% of Somali children under the age of five are stunted, with 17% severely stunted (Directorate of National Statistics Federal Government of Somalia, 2020). A study in Bangladesh, observed that stunting level in children were significantly higher in rural (38.1%) areas than urban (31.2%) areas which usually observed in most studies. Other factors, like as unpredictable rainfall and seasonal

vegetation, could explain the stunting levels in Somalia, confounding the prediction models for stunting. Stunting in children is influenced by the child's sex and age, the mother's age and level of education, wealth status, source of drinking water, breastfeeding length, and domicile, according to Mzumara et al. Consumption of inadequate food categories exposes children to the danger of stunting due to low nutritional intake, according to studies. Stunting in children is also caused by improper food supplementing during the weaning stage, when infants should shift from exclusive nursing to incorporating supplementary meals in their diet. The relationship between household income and stunting is inverse because household income is utilized to buy food for the children.

Underweight in Children Aged 6-59 Months

The percentage of children aged 6 to 59 months who were underweight was high, indicating that they were malnourished. in Banadir. Other studies, have also found high underweight levels (27%) in Daynile, Somalia. Underweight in children could be linked to poor complimentary feeding habits and low-quality foods which lack enough nutrients to meet the child's dietary requirements and this could be due to famine and food insecurity in Mogadishu. According to research conducted by the Food Security and Nutrition Analysis Unit, malnutrition is widespread in Mogadishu, with high rates of acute and severe malnutrition worldwide [5]. Malnutrition in children is dangerous because it can cause physical repercussions such as growth retardation.

Factor Associated with Nutritional Status of Under-Fives

Stunting was positively correlated with and the income status of the study household head A similar study.

However, there was a significant association between household size with stunting and wasting. This finding concurs with a study by two researchers which attribute this status to the food insecurity in the country and the impact of drought on food insecurity. This score thus supposes that children under five years in Banadir region eat different food items on a regular basis and this thus, contributes to a higher dietary diversity. In turn, this is expected to have a positive effect on their health and nutritional status. The high prevalence at slightly less than a third stunting compared to the national (14.3%) and Africa tally (6.4%) but higher than the global at 16%.

Conclusions and Recommendations

The demographic characteristics of the mothers (age, level of education, monthly income and consultation seeking behaviours) play a positive role in their caregiving practices and overall nutritional status of the children under the age of 5 years. Caregivers with high academic achievement than primary level make informed choices on young child feeding. The study concluded that most of the households have access to tap water which is considered clean and safe for drinking and household use. However, some households do not treat their drinking water before using it. The study also concluded that all the households use a toilet facility rather than open defecation, an indication that safe hygienic practices of safe and proper disposal of human waste is practiced Furthermore, hand washing as a hygienic practice is highly observed by the caregivers as a way of controlling and eliminating spread of diseases and infections, thus ensuring healthy caregiving. The study children are not exclusively breastfeeding and the complementary feeding practices are inadequate which might have contributed to poor nutrition status of children. The study children are malnourished and have a low dietary diversity of the diet contributing to

malnutrition, which manifests in hospital admissions for under-five in the study area [6-35].

Recommendations

There is need to have all the accompaniments for hand washing which include running water and soap so as to handwashing an effective practice as it was observed that some households lacked these important accompaniments, this should be provided by the municipality or the government of Somalia.

The government through the health ministry and health stakeholders need to increase awareness creation among not only mothers but also all primary caregivers (mothers and fathers) on the importance of exclusive breastfeeding, feeding the baby with colostrum and early first feeding, in prove the diet quality of the children.

Women need to be highly encouraged and enticed to deliver their babies at health facilities, which will enable health workers give mothers/caregivers' nutrition education.

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Conflict of Interest

Authors declare no conflict of interest.

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