

# MALNUTRITION AND ASSOCIATED RISK FACTORS AMONG CHILDREN UNDER TWO YEARS IN MAS HOSPITAL HARGEISA, SOMALILAND

Correspondent Author: Khadra Hussein Abdi

Department of Public Health and Management, College of Allied Health Science, Clarke University, Kampala, Uganda

[khadraa478@gmail.com](mailto:khadraa478@gmail.com)

## ABSTRACT

**Background:** Malnutrition rates in children under two continue to be high in south-central Somalia, with rates of over 15% in most areas; in the north of Somalia, where there is more peace, stability, and development, malnutrition rates have been consistently lower, with medium rates of about 10% in Somaliland and 14% in Puntland reported over the past seven years (Sheikh et al., 2020). **Methods:** A cross sectional study design with quantitative methods of data collection and analysis were used. A sample size of 217 with a response rate of 95% (207/217) respondents who were caretakers to children below 2 years selected by simple random sampling was used. Data was collected using self-administered questionnaire. **Results:** The results of the study showed that; out of the 207 respondents minority 50 (24%) had malnourished children while majority 157 (76%) had nourished children. **Conclusion:** In conclusion, malnutrition was associated with age above one year, very LBW, inadequate feeding, history of hospital admission, maternal illiteracy, many child and nonattendance of ANC, having many household members, drinking water from unsafe source and poor hand washing. The study recommends that, children should be well fed on balanced diet, mothers maintain good hygiene and mother's health educated during pregnancy and after on good child feeding.

**Keywords:** ANC Antenatal care, CDC disease control and prevention MAS Hospital, Hargeisa, Somalia

## BACKGROUND

Malnutrition in children is a global public health problem that impedes poverty eradication, productivity, and economic progress (WHO, 2021). It is projected that by addressing malnutrition, nearly 32% of the world's sickness would be eradicated (WHO, 2020). Malnutrition is a common and important public health concern that affects children in underdeveloped nations. Progress in addressing the many kinds of malnutrition is slow (Global Nutrition Report, 2018). Malnutrition is caused by nutrient imbalances in the body (WHO, 2021)

According to WHO, about half of all children under the age of two die each year, with the majority of deaths occurring in Sub-Saharan African countries such as Somalia (WHO, 2021). Furthermore, 155 million children under the age of two years are stunted, 52 million are wasted, 17 million are severely wasted, and 41 million are overweight or obese (WHO, 2021). Malnutrition manifests itself in a variety of ways, but the paths to prevention are critical. These include exclusive breastfeeding for the first two years of life, a diverse and nutritious diet during childhood, healthy environments, access to basic services such as water, hygiene, health, and sanitation, and proper maternal nutrition before, during, and after pregnancy and lactation (Global Nutrition Report, 2018).

Environmental and dietary factors were shown to play a role in the risk of malnutrition in early infants in Angola and Ethiopia, according to research Humbwaveli *et al.*, (2019); Yisak and (Ewunetei, 2020). Diet and sickness have been identified as the key direct determinants, with socio-economic factors influencing household food security, availability to health care, a healthy environment, and childcare practices Akombi *et al.*, (2017). Poor nutrition, feeding patterns, parental/caregiver education and occupation, domicile, household, income, and nutrition knowledge were some of the key factors among children under the age of two (Chaudhari and Agrawal, 2019; Arab Abdilahi, Mawlid Nur and Dahir Jibril, 2020).

Nutrition education for moms, according to these researchers, is vital since it is a resource that mothers may use to better care for their children. It can also provide her the skills she needs for childcare, improve her feeding habits, allow her to make choices and have a preference for the health facilities that are

accessible, raise her nutritional awareness, and allow her to change her attitudes about medicine and sickness (Humbwavali et al., 2019; Yisak and Ewunetei, 2020)

Malnutrition rates in children under two continue to be high in south-central Somalia, with rates of over 15% in most areas; in the north of Somalia, where there is more peace, stability, and development, malnutrition rates have been consistently lower, with medium rates of about 10% in Somaliland and 14% in Puntland reported over the past seven years (Sheikh et al., 2020). However, little is known in Hargeisa regarding the factors that contribute to malnutrition (study area).

is still among the highest even when compared to the bulk of African countries (WHO, 2014).

## **METHODS**

It constituted; the study design, study population, sample size, sampling method and procedures, study instrument, data analysis method used, and ethical issues observed. The overall objective of this study was to assess factors associated with malnutrition in children between 0-24 Months in Hargeisa District, Somalia. Data will be collected using a questionnaire.

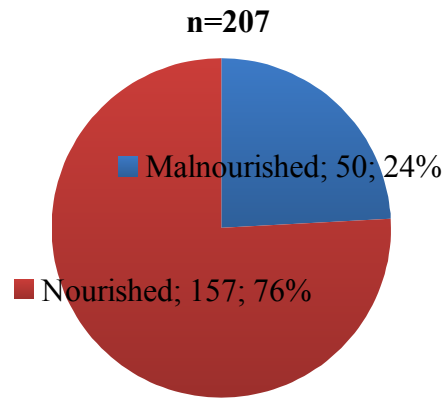
### **3.1 Study design**

For this study, the researcher used a cross-sectional design with quantitative methodology. This was useful for describing simultaneous exposure and outcomes, as well as creating exposure-outcome correlations.

## **RESULTS**

#### 4.1 Level of Malnutrition among children under two years attending MAS Hospital Hargeisa

*Figure 2: Level of Malnutrition among children under two years attending MAS Hospital Hargeisa  
n=207*



Results from figure 1, out of the 207 respondents that fully answered minority 50 (24%) had malnourished children while majority 157 (76%) had nourished children.

## 4.2 Child factors associated with malnutrition among children under two years attending MAS Hospital Hargeisa

### 4.2.1 Description of child factors associated with malnutrition among children under two years attending MAS Hospital Hargeisa

Table 2: Univariate description of child factors associated with malnutrition among children under two years attending MAS Hospital Hargeisa n=207

Variables	• Category	Frequency	Percentage
Age of the child	0-6 months	32	15.5
	6-12 months	63	30.4
	13-24 months	112	54.1
Gender of the child	Male	78	37.7
	Female	129	62.3
Birth weight of child(grams)	Very low birth weight (< 1500g)	50	24.2
	Low birth weight (1500-2500g)	55	26.6
	Normal birth weight (2500-4000g)	102	49.3
Place of delivery	Hospital	95	45.9
	Clinic	30	14.5
	Community Health Centre	51	24.6
	Home	31	15.0
Regularity the child was taken to the hospital after birth	Weekly	23	11.1
	Monthly	32	15.5
	After three months	123	59.4
	More than six months	29	14.0
Birth order	1st child	76	36.7
	2nd child	52	25.1
	3rd child	53	25.6
	4th child	15	7.2
	5 <sup>th</sup> and above	11	5.3
Whether the child was born prematurely	Yes	45	21.7
	No	162	78.3
Whether the Child was breastfed	Yes	151	72.9
	No	56	27.1
Child was breastfed to age of	1-6 months	74	49
	7-12 months	62	41
	13-24 months	14	09

	More than 24 months	1	01
Milk child was fed with	Formula milk	33	57
	Cow's Milk	25	43
Age of the child mother introduced solid foods	0 – 6 months	125	60.4
	7-12 months	82	39.6
Number of meals per day	< Three	120	58.0
	Three	62	30.0
	> Three	25	12.1
Patient's History of current illness	Fever	64	30.9
	Cough	50	24.2
	Diarrhoea	36	17.4
	Failure to gain weight	21	10.1
	Generalized body swelling	11	5.3
	Seizures	10	4.8
	Oral thrush	4	1.9
Patient's History of known chronic diseases	No illness history	11	5.3
	PTB	33	15.9
	Congenital heart disease	2	1.0
Whether this child was previously admitted to hospital	None	172	83.1
	Yes	47	22.7
Person who referred caregiver to hospital	No	160	77.3
	Nurse	35	16.9
Person who referred caregiver to hospital	Doctor	132	63.8
	Dieticians	40	19.3

Source: Primary Data 2021

Table 2 above indicated that out of the 207 respondents that participated in the study; majority 112 (54%) were between 13-24 months, 129 (62%) were females, 102 (49%) had Normal birth weight (2500-4000g), 95 (46%) were delivered from hospitals, 123 (59%) of the mothers took their children to hospitals after three months, 76 (37%) were nursing their first child, 162 (78%) their children were born at full term, 151 (73%) breastfed their children, 74 (49%) breastfed their children between 1-6 months, 125 (60%) introduced solid foods before six months, 120 (58%) fed their children on less than three meals, 64 (31%) suffered from fever, 172 (83%) had no history of known chronic diseases, 160 (77%) of the children weren't previously admitted to hospital and 132 (64%) were referred to the hospital by the doctors.

### Discussion

This chapter presents the discussion results of the study in relation to the specific objectives. These include; assessing the level of malnutrition among children under two years attending MAS Hospital Hargeisa, to determine the child, maternal and household related factors associated with malnutrition among children under two years attending MAS Hospital Hargeisa.

#### 5.1 Discussion of Results

The study findings showed that a quarter of the respondents had malnourished children. This was higher

than the national malnutrition prevalence of 16% in Somalia (Ministry of Health Somalia, 2019). This could be attributed to the fact that; the study was done from a poverty-stricken area that has been disrupted by famine and internal conflicts which has made farming and trade very difficult. Similarly, higher levels of malnutrition were reported in a study carried out in Bijapur District rural regions in India where 49.9% of men and 36.7% of females were underweight, 40.1% males and 35.9% girls were stunted, and 36.5% males and 21.2% females were wasted. Male children were found to be more likely than female children to suffer from malnutrition in any manner (Jawaregowda and Angadi, 2017). Results showed that children who were aged between 13 and 24 months were twenty-nine times more likely to be malnourished as compared to children below six months. This could be attributed to the fact that children above one year required a lot of food nutrients which their caretaker could have lacked which made them malnourished. Similarly, a study conducted in the agro-pastoral community of Bule Hora District, South Ethiopia among children aged 0–24 months found that boys were more likely than girls to become underweight, stunted, and wasted in children under the age of two (Asfaw et al., 2015). Therefore, males are vulnerable to have malnutrition compared with females in children <2 years. Regarding birth weight of the children, very LBW was significantly associated with malnutrition. Despite the fact that children who had birth weight between 1500-2500g were malnourished, they were less likely to be malnourished as compared to children who had very LBW less than 1500 grams. Very low birth weight was associated with low immunity thus children were prone to infections which retarded their growth. Similar findings were reported in a study carried out in Tanzania Chirande *et al.*, (2015).

### CONCLUSION

The study assessed the factors associated with malnutrition among children under two years attending MAS Hospital Hargeisa. The study considered; child, maternal and household related factors. About a quarter of the respondents had malnourished children whereas the rest were well nourished children. Child related factors that were associated with child malnutrition were; age between 13 and 24 months, very low birth weight, prematurely birth, feeding on three meals or less a day and having history of previous admission to hospital. Mother related factors included; young maternal age, maternal illiteracy, having many children and none attendance of ANC. Household related factors included; living in a household having more than 3 members, drinking water from unprotected sources and poor hand washing.

### Recommendations

The study recommends the following stakeholder to do the following;

#### **Government/Ministry of Health**

- i. The government should carry out routine mass health education about child nutrition with emphasis on proper child and maternal feeding and hygiene
- ii. Pregnant and lactating mothers should be availed with feeding supplements from health care facilities where they accessing ANC services from. This will even increase maternal chances of attending ANC thus providing a double coincidence chance to identify and treat danger signs of pregnancy and health educate mothers more about infant feeding.
- iii. The government should provide basic utilities such as safe drinking water sources to people to minimize occurrence of waterborne diseases which might lead to child malnutrition.

#### **Health care workers**

- iv. Health care workers should health educate mothers about infant feeding so that they get well-nourished children
- v. They should always display information about infant feeding in health care facilities so that mothers see, read and understand about infant feeding.

#### **Mothers**

- vi. Mothers should always seek basic literacy information such as ability to read and write so that they grasp the basic health information given during hospital visits and information displayed in health care facilities.
- vii. Mothers should always attend ANC services so that their health status and that of the fetus are assessed and give necessary help.
- viii. Mothers/caregiver should always feed their children on balanced diet in order to have healthy children
- ix. Mothers should adequately and proportionately feed their children so that they have appropriate nutrients as required by their bodies
- x. Mothers should exclusively and adequately breastfeed their children for the first six months and carry out prolonged breastfeeding up to at least two years.

#### **Household members**

- xi. Household heads should avail their members with safe drinking water by accessing it from protected sources.
- xii. They should ensure good health of their members through timely and periodic visiting of healthcare facilities.
- xiii. They should ensure presence of hand washing facilities in homes. These should include; safe water, soap and tanks

#### **6.3 Area for future research**

The Ministry of Health of Somalia should make more research about mother/caregiver knowledge and attitudes towards child feeding and also follow up resources invested in child health and development.

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