Food Science and Quality Management
ISSN 2224-6088 (Paper) ISSN 2225-0557 (Online)
Vol.24, 2014

Prevalence of Wasting and Its Associated Factors of Children among 6-59 Months Age in Guto Gida District, Oromia Regional state, Ethiopia.

Alemu Adeba[1], Dr. Sileshi Garoma[2], Habtamu Fekadu[2*], Wondu Garoma[2]
[1]NekemteTechnical and Vocational School, Ethiopia
[2]Wollega University, Ethiopia
*Corresponding Author: Habtamu Fekadu, fekadu_habtamu@yahoo.com

Abstract

Background: Nutrition is central pillar of human life and its request differ with respect to age, gender and during physiological changes such as complimentary feeding and child age. Ethiopia has a high prevalence of Acute and Chronic Malnutrition, with almost half of Ethiopian children chronically malnourished and one-in-ten children wasted. About 47% of children under-five are stunted, 11% are wasted and 38% are underweight. Acute malnutrition also known as wasting, it is characterized by a rapid deterioration in nutritional status over a short period. For children, it can be measured using the weight-for-height nutritional index or mid-upper arm circumference. There are different levels of severity of acute malnutrition: moderate acute malnutrition (MAM) and severe acute malnutrition (SAM). The recommended a revision of cut-off points to determine wasting are the following: SAM: MUAC < 110 mm for Severe Acute Malnutrition (SAM), Moderate Acute Malnutrition (MAM): MUAC > 115 and < 125 mm Cut-Off Value Normal ≥125 mm.

A cross- sectional descriptive survey and measurements of MUAC was used to investigate Prevalence of wasting and Its Associated Factors among Children 6-59 Months of Age in Guto Gida District, Oromia, Ethiopia. Multistage random sampling technique was used and 359 children between 6-59 months aged were selected from 398 enrolled children to the study. The quantitative data were analyzed using SPSS for windows version (17.0) and EPI-6. Both bivairate and multiple logistic regressions were run to assess factors that were associated with the dependent variable at $p< 0.05$ and to control the confounders.

Objective: To determine the Prevalence of Wasting and Its Associated Factors Among 6-59 Months Age in Guto Gida District, Oromia, Ethiopia.
Method: A cross-sectional survey design was used to assess the Prevalence of Wasting and Its Associated Factors Among 6-59 Months Age in Guto Gida District, Oromia, Ethiopia from March to June 2013.

Results: During the study period, 398 children were enrolled and about 359 children were included in the final analysis. Associate factors taken to analyze wasting were Socio-economic status, Housing quality, Water quality, Children Healthy condition, Child characteristics, Maternal Caring and characteristics and Dietary history of child and mother. There was significant relationship between Socio-economic status, House and Water quality, Children Healthy condition, Child and caregivers characteristics, Maternal Care, dietary history of child and mother, household food intake, and public healthy practice and dependent one. Both biviarate and multivariate logistic analysis indicated that low birth weight, lack of balanced diet as of food pyramid and housing quality, water quality are some associate factors of wasting, stunting, and underweight.

With respect to age categories the study result shows 11.14% wasting for among 24-59months age and children 6-23months were 12.53% were wasted .About 27.5 % of children were severe stunted, 41.78% less than 65% median for height meaning that stunted children, the proportions of severely underweight and underweight children in this study area were 28.7% and 39.6% respectively.

Conclusion: Depending on facts of the study, it can be concluded that; child wasting (acute mal nutrition) problem is highly observed in Guto Gida District. When out puts of the result compare to that of standard the prevalence's of wasting in the study area was the same but slightly excised EDHS, 2011 report. It can be concluded professional that most households in the study area were illiterate, had low income, consumed cereals and crops, had not get quality water, had low nutritional information, majority of children did not taken Rota viral vaccine(de-worming activities). Therefore, it is a time to tickle child undernourishment, which is a silent killer of the community.
Keywords: Prevalence, Wasting, associated factors, MUAC and Guto Gida District.

Introduction

Ethiopia has a high prevalence of Acute and Chronic Malnutrition, with almost half of Ethiopian children chronically malnourished and one-in-ten children wasted(EDHS, 2011) .Wasting (Acute malnutrition) defined as

weight for height with Z-score below minus two standard deviations from the median weight for height of the standard reference population (UNICEF, 2011). Sever wasting; W/H below -3SD or less than 70% of the median NCHS/WHO reference values. NutStat is a program for recording and evaluating measurements of length, stature, weight, head circumference, and arm circumference for children and adolescents. It can be run as a standalone program or linked to an Epi Info View using make View. NutStat calculates percentiles, number of standard deviations from the mean (Z-scores), and in some cases, percent of median.

Epidemiological studies conducted in developing countries have identified several factors associated with under nutrition, including low parental education, poverty, low maternal intelligence, food insecurity, rural residence and sub-optimal infant feeding practices (Black et al, 2008 and Bhutta, 2008). It is estimated that 53% of deaths among pre-school children in the developing world including Ethiopia are due to the underlying effects of malnutrition on diseases such as measles, pneumonia, and diarrhea (Mercedes, 2004).

Ethiopia had a very high level of undernourishment in 2006-08, the latest period available; 41 percent of the total population was undernourished. The number of undernourished decreased from 1990-92, benchmark period of the Millennium Development Goal, to 2000-02 while the proportion of undernourished decreased from 1990-92 to 2006-08 (FAO, 2011).

In Ethiopia, child undernourishment rate is one of the most serious public health problem and the highest in the world. High underweight rates in the country pose a significant obstacle to achieve better child health outcomes (UNICEF, 2012). Underweight and stunting rates among young children are the highest in sub-Saharan Africa (WHO, 2011). About two in five children (38%) are underweight, 10.5% of the children are wasted (2.2% are severely wasted) and 46.5% of the children are stunted that half of them are severely stunted (WHO, 2011).
According to Ethiopian Demographic Health survey, 29 % of children among 6-59 months of age was underweight (have low weight-for-age), and 9 % are severely underweight (EDHS, 2011). About two in five children in sub-Saharan Africa (38%) are underweight, 10.5% of the children are wasted (2.2% are severely wasted) and 46.5% of the children are stunted that half of them are severely stunted (WHO, 2011).
In Oromia region prevalence of child malnutrition indicated that 34.4% are underweight with 11% severe underweight, 9.6% of the children are wasted (2.4 % severe wasting) and 41 % of the children are stunted with 21.8% sever stunting (EDHS, 2010).

Lack of food is not the sole cause of child malnutrition for Guto Gida District; but also Socio-economic status, Housing quality, Water quality, Children Healthy condition, Child characteristics, Maternal Caring and characteristics and Dietary history of child and mother were associated factors, which seem to be important contributory factors in determining the nutritional status of children in rural areas. Hence, this study was under gone to investigate the prevalence of wasting and its associated factors of children among 6-59 months age and to evaluate the association between dependent and independent variables.

Material and methods

Study area and period: The study was conducted in Guto Gida District in 2013. It far away from Addis Ababa about 328 kilometers to the west of Ethiopia with possessing a total area of 901.80 km^2. Additionally, the study area had total population of 105,332 and children under five reported to be 17,274 according to the recent population census conducted in 2012.

Study design :A community based cross-sectional survey design was conducted to investigate the prevalence of Wasting and its associated factors among children 6-59 months aged in Guto Gida district, Oromia regional state, western Ethiopia.

Study Population: All children from 6-59 months aged residing in the Guto Gida District for six month and above before, the survey was included.

Sample Size Determinations: The total sample size of 398 was determined by using single proportion population formula,29 percent of children among 6-59 months of age was underweight (have low weight-for-age), and 9 percent are severely underweight (EDHS, 2011), totally 38 % of underweight proportion were sampled with 95% confidence level, 5% margin of error, and 10% for possible attrition rate.

Sampling Techniques and Procedures: The study employed multi-stage sampling scheme using stratified, cluster sampling, simple random and systematic sampling. First, the study area was stratified, then clustered into four kebeles were randomly selected; one from urban and three from the rural kebeles considering agro ecological areas. Systematic sampling method applied to select study participants. Clustered, simple random sampling and Systematic sampling method selected using single proportional allocation to the rural and urban

based on population; 267 (67%) samples from three rural kebeles and 131 (33%) samples from the one urban kebele.

Data collection methods: The questionnaire was prepared based on reviewing different available literature and standard questionnaires that were already validated by EDHS (2011). It was modified to the local targeted community considering the study area culture, norms and other contexts. The quantitative data was collected using structured questionnaires and anthropometric measurements as well. The questionnaires translated from English to Afan Oromo, back to English by different person fluent in both languages, and have used to collect data. Some questions purposefully designed openly to seek the opinions of respondents for the qualitative component to triangulate responses obtained by the structured questionnaire on associate factors of wasted children among 6-59 months age. The collected data reviewed and checked for completeness and consistency.

Data Analysis: First, the data checked for completeness and consistency for data entry and cleaning. Then, it coded and entered in the computer using EPI-6 variables names. It has a program (Epi-Nut) to convert nutritional data into Z-scores of the indices; height to age, weight to height and weight to age taking age and sex into consideration using NCHS reference population standard of WHO, 2011.
The data was analyzed by using SPSS version 17.0 programs and strata version eleven (11.0) for analysis to got précised result; descriptive summary using frequencies, proportions, and cross-tabs used to present study results by frequency, tables and ratios. P-value less than 0.05 considered as statistically significant. Odds ratios at 95% confidence interval were used to see the significance of the study and the strength of association between study variables. However, biviarate and multiviarate logistic regression used to assess the association between the study variables and to control the possible confounding.

Ethical Considerations: The department of Nutrition and food science, school of graduate study, approved the study protocol and then by institutional ethical clearance review of Wollega University, Official letter of cooperation was written to Guto Gida districts administrations for permission. The nature of the study was fully explained to the study participants to obtain their oral informed consent prior to participation in the study and data was kept confidential. Informed consent was obtained from each respondent before interview.

Results

Socio-demographic characteristics of Children: Out of 398 children sample to be included in this study from march- June2013, about 359 children were included in the final analysis making response rate of 90.2%, and the rest data were not complete. From the total 359 actively participated children, 189(52.6%) were males and 170 (47.9%) were female. According to age, group 221(61.6%) were 6month- 23 months and 138(38.4%) were age between 24-59 months of age. About, 151(36.7%) of the children delivery was at home and 261(63.3%) born at health center. Concerning the MUAC of children included in the study, 217 (19.2%) measured MUAC≥12.5cm at 5-59months with normal, 142 (39.6%) with MUAC<12.5cm and less, meaning malnourished (table_1).

Table_1: Socio-demographic characteristics of Children, Guto Gida District, March-June 2013

Variable N=359	Categories	Frequency(n)	Percentage (%)
Child age	6-23 months	221	61.6
	24-59 months	138	38.4
Child sex	Male	189	52.6
	Female	170	47.4
Birth weight	<2.5Kg	102	28.4
	2.5Kg-3.5Kg	186	51.8
	3.5-4.2Kg	61	17
	>4.2Kg	10	2.8
MUAC	<12.5cm	142	39.6
	≥12.5cm healthy child	217	60.4
Height of child	<65.8cm	95	26.5
	65.8-74.7cm	150	41.8
	<74.7cm	114	31.8
Exclusive breast feeding	Yes	350	97.5
	No	9	2.5
Place of delivery	Home	227	63.2
	Hospital	132	36.8

Healthy conditions of children: Concerning the healthy conditions of children, from all children visited health facility about 293 (81.6%) did not take complete vaccine and high proportion of (81.6%) children did not practice Rota viral vaccine (de-worming activities) at all. Concerning diarrhea and vomiting, about 57.4% children had diarrhea for more than two weeks continuously before the study was started. Besides that, from the enrolled children faced breathing problem in this study constitutes 197 (54.9%) and 181 (50.4%) of children fever with loss of appetite, 188(52.4%) had constipation and 137 (38.2%) had infection of the skin and hair change (dermatitis) (table_2).

Table_2 .Healthy conditions of children, Guto Gida district, March-June 2013

Variable N=359	Categories	Frequency(n)	Percentage (%)
Loss of appetite	No	178	49.6
	Yes	181	50.4
Constipation	No	171	47.6
	Yes	188	52.4
Breathing problem	No	197	42.6
	Yes	206	57.4
Diarrhea &vomiting	No	153	42.6
	Yes	206	57.4
Hair &skin change	No	222	61.8
	Yes	137	38.2
Complete vaccine	No	293	81.6
	Yes	66	18.4
De-worming	No	293	81.6
	Yes	66	18.4

Dietary History of children: As far as the dietary history of children were concerned, considerably high proportions (75.5%) were depends on cereals and crops based food. Moreover, about 17.5%, 4.5% were

consuming vegetable and fruits, diary and its products respectively. Besides, very insignificant proportions (<0.8%) had accessible to use meat and Poultry (table_3).

Table_3**:** Dietary history of child, Guto Gida district, March-June 2013

Variables	Categories	Frequency	Percentage (%)
Stipple food pyramid	Cereals & crops	271	75.5
	Vegetables &fruits	63	17.5
	Meats& poultry	3	0.8
	Dairy and its products	16	4.5
	Fats & sweats	6	1.7
Frequency of using meat & derivatives	Daily	12	3.3
	3-4per week	7	1.9
	once a month	26	7.2
	Never	314	87.5
Eating fat and sweats	Daily	1	0.3
	3-4per week	383	91.9
	once a month	6	1.7
	Never	22	6.1

Housing Quality: A considerable high proportion (89.7%) of families or caregivers had house with the roof constructed from tin sheet, while the remaining 37(10.3%) of the families made their home from locally available grasses. As far as the floors and walls observed, about 324 (90.3%) of their house were constructed from mad, while significant proportion (9.7%) of the house were cemented. Moreover, about 351(97.7%) of the family had separate kitchen, while the remaining 2.3% had no separate kitchen. Furthermore, approximately 97(27%) of the family owned pit ground latrine, while the remaining 262 (73%) uses cemented toilet (table_4).

Table_4**.** Housing quality of the study participants, Guto Gida district, March-June 2013

Variable ,N=359	Categories	Frequency (n)	Percentage (%)
Owner of the house	Private	291	81.1
	Rent	68	18.9
Roof type	Grass	37	10.3
	Tin sheet	322	89.7
Wall and floors	Mad	324	90.3
	Cemented	35	9.7
Rooms available	1 room	21	5.8
	2 rooms	139	38.7
	3 rooms	166	46.2
	>4 room	33	9.2
Toilet type	Pit ground latrine	97	27
	Cemented	257	71.6
	Ceramic	5	1.4

Quality of water supply: The present study also showed that, community at study area uses different types of water sources for consumption and other activities. For instance, about 81(19.7%) use river/lakes water, 23 (5.6%) consume ground water, 123 (29.9%) use well protected spring water and 164 (39.7%) use bono/line

water. However, considerably high proportions (83.8%) of the population travel long distance to fetch water (table_5).

Table_5: Quality of water supply of the study participants, Guto Gida district, March-June 2013

Variable, N=359	Categories	Frequency(n)	Percentage (%)
Water source	River/lake	91	22
	Groundwater	30	7.3
	Well protected spring water	128	31.0
	Bono/stand pipe	164	39.7
Sufficient water	No	346	83.8
	Yes	66	16.0
Time to fetch water	1-3 minutes	80	19.3
	1-5 minutes	57	13.8
	5-10 minutes	94	22.8
	>10 minutes	181	43.8

Prevalence of Wasting: As clearly indicated in table_6 with respect to age categories, about 11.14% of children of age 24-59 months in the study were wasted, but children among 6-23 months age were 12.53% more wasted. purpose fully wasting of children seen in two groups as complementary feeding and age 24-59 months, because when children were not practice exclusive breast feeding and given additional foods after 6 months the probability of getting wasting was high. Moreover, the high proportions (41.78%) of children were stunted and about 39.6% were underweight.

Table_6. Prevalence of wasting, stunting and Underweight among 6-59 months of age, Guto Gida district, March -June 2013. (n=359)

Child ages	Wasting	Underweight		Stunting	
	Wasted	Severe underweight	Underweight	Severe stunted	Stunted
6-23 Months	12.53%	28.4%	39.6%	27.5%	41.78%
24-59 Months	11.14%				

Wasting of Children and Its Associated Factors: Wasting of children whose caregivers were illiterate and primary school was 50% times higher than in those children of mother who attended at least secondary. Wasting showed significantly high association (P<0.01) with children of mothers who did not take extra food during pregnancy and lactation, house holds monthly income less than 1000.00ETB and lack of house quality and insufficient water supply. In this study the biviarate analysis showed that mothers age, staple food pyramid, birth weight of child, MUAC of child, previous exclusive breast feeding, complete vaccine, and de-worming have significant association with wasting (P<0.01). whereas child age, height of a child, number of children, child sex, constipation and breathing problem have no association with wasting of child (P>0.05).

In this study the biviarate analysis showed that mothers age, staple food pyramid, birth weight of child, MUAC of child, previous exclusive breast feeding, complete vaccine, and de-worming have significant association with wasting (P<0.01). whereas child age, height of a child, number of children, child sex, constipation and breathing problem have no association with wasting of child (P>0.05). After bivariate analysis those predictors which showed statistical significance were used to run multivariate analysis. In multivariate analysis lack of complete vaccine, low birth weight, and staple food pyramid have showed also association with wasting of child (P<0.01). While on multivariate analysis, loss of appetite, previous breast-feeding, did not showed significant association with wasting of child. On the other hand, anthropometric data analysis also showed that, considerably high proportion (38.8%) of children were seriously malnourished (MUAC<12.5cm). MUAC of a child have strong statistical association with wasting of children (P<0.001).

Both biviarate logistic and multivariate analysis indicated that low birth weight, lack of balanced diet as of food pyramid and housing quality, water quality are some associate factors of underweight (stunting, and wasting). In addition, in binary logistic analysis, maternal lack of education and socio-economic status were found significant predictors of stunting. In multiple logistic analyses, for example age of children with 24-59 months has strongly associated with wasting. Those children between 24-59 months of age were 1.05 times more likely to be wasted (AOR=1.05, 95%CI: 1.00-1.17) than those who took the complete vaccine.

In multiple logistic analyses, lack of complete vaccine of children was strongly associated with wasting. Those children did not take complete vaccine were 1.73 times more likely to be wasted (AOR=1.73, 95%CI: 1.20-1.97) than those who took the complete vaccine (table-7).

From the total number of children at study area when referred to wasting children among 6-23 months age 221 greater than 65% median weight for height and138 were 24-59 months were with 65% median weight for heights, 150 (41.78%) below standard meaning that wasting were seen.

In multiple logistic analyses, age of children with 24-59 months has strongly associated with wasting. Those children between 24-59 months of age were 1.05 times more likely to be wasted than 6-23 months age (AOR=1.05, 95%CI: - 1.00-1.17) (table-8).

Table_7: Bivariate and Multivariate Logistic Regression analysis of factors associated to Wasting, Guto Gida District, Oromia, Ethiopia, March-June2013

N=359	Categories	Wasting		COR (95% CI)	AOR (95% CI)	P-value
		No	Yes			
Child age	6-23 months	151	101	1	1	1.00
	24-59 Months	86	71	1.175(0.76-1.81)	1.23(0.83-1.85)	0.463
Staple food pyramid	cereals &crops	163	108	1	1	1.00
	Veg. and fruits	31	32	0.666(0.49-0.92)*	1.28(1.24-6.84)*	0.012*
	Meats & poultry	1	2	0.771(0.144-4.13)	0.84(0.15-4.76)	0.797
	Dairy &products	11	5	0.554(0.031-9.98)	0.50(0.03-9.6)	0.689
	Fats and sweats	3	3	0.721(0.33-1.56)	1.59(0.23-11.0)	0.395
Mother age	18-27 years	113	97	1	1	1.00
	28-37 years	95	53	0.291(0.164-0.52)*	1.14(1.09-1.86)	0.001***
	>37 years	1	0	1	1	
Birth weight	<2.5KG	54	48	0.62(0.39-0.97)*	1.18(1.003-1.31)*	0.038*
	2.5Kg-3.5Kg	117	69	0.769(0.533-1.11)	0.37(0.19-0.73)*	0.162
	3.5-4.2Kg	33	28	1.034(0.28-3.76)	0.49(0.3-0.8)	0.959
	>4.2Kg	5	5	1	1	1.00
MUAC	≥12.5cm	35	34	1	1	1.00
	<12.5cm	83	59	1.70(1.22-1.93)*	1.76(1.48-1.98)*	0.001***
Height of child	serious stunting <65.8cm at 1yrs	50	45	0.80(0.04-0.15)	1.10(0.75-1.515)	0.721
	65.8-74.7cm age of 1/2-1yr	85	65	1	1	1.00
	serious stunting <74.7cm at 2yrs	74	40	0.72(0.42-1.24)	1.17(0.88-1.56)	0.235
Loss appetite	No	105	73	0. 67 (0.50-0. 91)*	1.249(0.65-2.38)	0.500
	Yes	104	77	1	1	1.00
No children	6-23 month	134	107	1	1	1.00
	24-59 month	5	3	1.066(0.64-1.79)	1.37(0.87-2.19)	0.808
De-worming	No	172	121	0.69 (0.38-0.802)*	1.64 (1.25-2.47)*	0.041*
	Yes	37	29	1	1	1.00
EBF	Yes	204	146	1	1	1.00
	No	5	4	0.57(0.5-0.73)*	0.51(0.11-3.1)	0.513
Child sex	Male	104	85	1	1	1.00
	Female	105	65	0.99(0.63-1.54)	0.88(0.57-1.35)	0.953
Constipation	No	103	68	1.12(0.595-2.38)	1.65(0.66-4.11)	0.73
	Yes	106	82	1	1	1.00
Breathing problem	No	117	80	1	1	1.00
	Yes	92	70	0.84(0.40-2.38)	1.36(0.50-1.66)	0.635
Complete Vaccine	Yes	55	44	1	1	1.00
	No	154	106	0.54(0.53-0.56)*	1.73(1.2-1.97)*	0.03*

NB: Wasting is considered when there if < 65% of median age for height and otherwise. MUAC ≥12.5cm normal for 1/2-5years and MUAC<12.5cm children were malnourished. AOR= Adjusted odds ratio, COR = Crude Odds ratio, * Significant at p<0.05, ** Significant association at p<0.01, ***strong association at p<0.001. OR=1 ,no statically significant, OR>1,risk factors, OR<1 protective

Table_8: Final logistic regression Model to predict wasting by MUAC with Age, in Guto Gida district, March-June 2013

Child age	Categories		MUAC of Response No	Yes	COR	AO R	P-value
6-23 months	Wasting	>65%w/ht	24	106	1	1	1.00
		<65%w/ ht	26	63	0.76(0.38-0.28)*	1.16(0.76-1.81)	0.463
24-59 months	Wasting	>65% w/ ht	11	66		1	1.00
		<65%w/ ht	8	53	0.50(0.54-0.66)*	1.05(1.00-1.17)*	0.004*

NB: Wasting is considered when there if < 65% of median age for height and otherwise. AOR= Adjusted odds ratio, COR = Crude Odds ratio, ***** Significant at p<0.05. OR=1 ,no statically significant, OR>1,risk factors, OR <protective

Discussion

In many developing countries including Ethiopia, malnutrition is still widespread. This study reveals that Wasting is a problem in Guto Gida District, where by it affects children among 6-59 months age. Children were a potentially vulnerable group since they were entirely dependent upon parents or caregivers for all nutritional needs. The prevalence of wasting study area was the same as previews EDHS, 2011 report, but slightly excised. Indicators were the healthy condition of children seen during the cross-survey study such as: wasting and other related factors diarrhea and vomiting, edema-pitting, skin change-dermatitis, constipation, loss of appetite, law birth weight, and other related associate factors of child undernourishment were point out severity at the study area. Still trend of wasting significantly high when compared to the magnitude of total underweight 38% (9% severe and 29% were moderately underweight) and wasting 11%, which were predicted by EDHS in 2011. Similarly, the prevalence of wasting and underweight in Guto Gida District from March-June 2013 were 11.14% and 39.69% respectively. Because the area were survey taken community had members of newly lunched who were migrated (mobility problem) from Hararge Zone.

Agro-ecological has a negative and significant effect on wasting. It was also hypotheses that the agro ecology location could be a proxy for access to higher-level health care facilities and other socio economic variables. The prevalence of the survey result indicates that there was higher proportion of wasting as compared to midland areas. Similarly, the regression analysis showed that significant association of wasting with lowland. The current finding is in combatable with the previous studies that the different agro ecology zones differ in climate which influence both the plant and animal production sources of food level and pattern. As already noted, lowlands are sparsely populated and have limited in accessing the modern health facilities, which in turn resulted in high level of wasting. A review of the empirical literature showed that similar finding was reported (Woldemariam and Timotiows, 2002. Morales, 2004). Similar explanation might be due to differences in economic levels and disparities in the lack of knowledge and understanding of farmers' mothers on child health care practices. The same reason were also suggested by previous studies (Filiz *et al*., 2007)

The result of finding concerning the standard deviations is less than ±2SD international median for height meaning that stunted. With respect to age group children between 6-23 months were -1.3-1.8SD and 24-59 months age were measure between -2.2-1.7SD. This implies that**,** acute malnutrition (Wasting) means<-2standard deviations from the median weight for height of the standard reference population, (UNICEF, 2011).

Children who had breathing problem with duration of two weeks onset period were 1.8times more likely wasted as compared with children with no cough within the past two weeks. Children who were experiencing diarrhea episode within the past two weeks of the survey day were 1.4times more likely measured as wasted (low WHZ) as compared with children who had no diarrhea episode. These important factors were observed by to indicative descriptive variables of presence of breathing problem and diarrhea episode within two weeks of the survey day. Both had strong positive relationship with wasting. This finding was consistent with previous findings (Shils M., 2006).

The impact of this infectious disease on wasting was due to the creation of mal-absorption of the intestine during the episode as well as loss of appetite (Petri W et al., 2008). On the other hand, mothers whose child became sick

with diarrhea tend to minimize the amount of feeding believing that it aggravates the disease. The cumulative effect of this affected the deterioration of current nutritional status (Wasting) of children in the study area.

Additionally, the severity of wasting increases with age but at a decreasing rate; this finding was indicated by the significance of the squared variable for a child's age. It would be possible to relate that increased size of the family in Ethiopia implies the increased dependency ratio, which further burden for the typical households (CSA, 2008). The finding of this study indicates the positive association between wasting and having larger family size. Finally, this study result presented that children with multiple diarrheas and vomiting significantly suffer from malnutrition, which suggests that children in larger families in the study area face increased competition for scarce nutritional resources. In general, wasting magnitude shows 11.14 and 12.53% with respect to 24-59 and6-23 months of age respectively. Therefore, it is a time to tickle wasting (acute malnutrition), which is a silent killer of the community.

To sum up, lack of clean water and housing quality were also one of the bottlenecks of the study area and most of them consume cereals and crops solely. When out puts of the result compare to that of standard the prevalence's of acute malnutrition in the study area was high. There was significant relation seen between Socio-economic status, House and Water quality, Children Healthy condition, Child and caregivers characteristics, Maternal Care, dietary history of child and mother, household food intake, and public healthy practice and dependent one. Both biviarate and multivariate logistic analysis indicated that low birth weight, lack of balanced diet as of food pyramid and housing quality, water quality are some associate factors of wasting. Managing acute malnutrition (wasting) through community mobilization to improve access to safe and adequate water supply, child nutrition, maternal nutrition, adopting American food pyramid, housekeeping, and mothers care practices were advisable. Furthermore, other studies that address the prevalence of wasting and its associated factors of children among 6-59 months of age needed to tackle child under nutrition at the study area.

References

Black R. *et al.*,2008. Maternal and child under nutrition: global and regional exposures and health consequences.

Bhutta ZA. *et al.*,2008. What works Interventions for maternal and child under nutrition and survival. *The Lancet*, 371(9610)**:**417-440.

Central Statistics Agency., 2008. Population projection (2012) according to the Ethiopia Census.

EDHS, 2011. Demographic and Health Survey, Preliminary Report. Ethiopia;. Available ICF Macro Calverton, Maryland, U.S.A.

Edris M.,2007. Assessment of nutritional status of preschool children of Gumbrit, North West Ethiopia.

FAO, 2011. The State of Food Insecurity in the World 2012. Economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition. Rome.

Mercedes, 2004. Estimates of Global Prevalence of Childhood Underweight in 1990 and 2015.

Richard SA.,2011. Revisiting the relationship of weight and height in early childhood. Adv Nutr. 2011; 3:250–4.

Shils M, Shike M, Ross A, Caballero C, Cousins B, and Robert J., 2006. Modern Nutrition in Health and Disease, 10th Edition. Lippincott Williams & Wilkins press. 671p.

UNHCR,2011. Guidelines for Selective Feeding: The Management of Malnutrition in Emergencies,http://www.unhcr.org/cgibin/texis/vtx/search?page=search&comid=4a1e83526&cid=49aea93ae2&keywords=acute%20malnutrition

UNICEF, 2012. Nutrition Glossary. A resource for communicators.

UNICEF,2012. The global average rate of children under five years of age who are underweight was 16% in 2006-10.

WHO, 2005. Nutrition for health and development, protection of the human environment, Geneva. With changes in malnutrition in developing countries. *J Nut*. 133:107-119.

WHO,2011. Millennium Development Goals: progress towards the health-related Millennium Development Goals. Fact sheet No. 290. Geneva, Switzerland.