

Review Article

Nutritional and Food Security Status of Children Under Five Years in Ethiopia: A Review

Tamiru Yazew

Department of Food Science and Nutrition, College of Agriculture, Wollega University, Nekemte, Ethiopia

Email address:

tamiruyazew2012@gmail.com

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Abstract: Malnutrition in children remains one of the most important public health and developmental problems in the developing world, mainly affecting the poor and under privileged. Children are most vulnerable to malnutrition in developing countries because of low dietary intakes, lack of appropriate feeding practices, food insecurity and inequitable distribution of food within the households. Therefore, this paper was designed to review nutritional and food security status of children under five years in Ethiopia. The review showed that child under nutrition in Ethiopia is a concern for the households with poor economic level and it covers large areas and affects significant number of people. This work also reviewed that in different regions of Ethiopia, magnitude of under nutrition and food insecurity were very high in rural areas where livelihood depends on backward farming system. Moreover, this work indicate that household food insecurity is a critical variable for understanding the nutritional status of children in low income countries; as low income is associated with poor diet, food insecurity and poor child health. Therefore, depending on reviewed document, to address nutritional and food security issue in Ethiopia, all responsible bodies should incorporate different research outputs to design programs to tackle under nutrition and food insecurity problems in Ethiopia.

Keywords: Nutritional Status, Food Insecurity, Children Under Five Years, Ethiopia

1. Introduction

Malnutrition in children remains one of the most important public health and developmental problems in the developing world, mainly affecting the poor and under privileged [20]. Children are most vulnerable to malnutrition in developing countries because of low dietary intakes, lack of appropriate feeding practices, and inequitable distribution of food within the households [28].

Globally, in 2011, nearly one in four children under five years of age (165 million or 26% were stunted; 101 million or 16% underweight and 52 million were moderately or severely wasted [23]. Under nutrition is often considered as one of the most important indicator of a household's living standard and also an important determinant of child survival [27].

Sub Saharan Africa and South Asia are home to three fourths of the world's stunted children. In Sub Saharan Africa (SSA), 40% of children under five years old were stunted; in South Asia, 39% were stunted [23]. It also reported that the

prevalence of underweight (33%) and wasting (16%) is highest in South Asia followed by SSA, which is 21% stunted and 9% wasted, respectively in 2012.

Reducing malnutrition among children under the age of five remains a huge challenge in developing countries of the world. An estimated 230 million under-five children are believed to be chronically malnourished in developing countries [20].

Nationally, according to the latest Ethiopia mini demographic and health survey reports, the prevalence of stunting, underweight and wasting in under five children was 40%, 25% and 9%, respectively [3].

Although food security is essential to ensure adequate nutrition and prevent hunger, the concepts of food security, optimal nutrition and lack of hunger and under nutrition are interlinked [12]. Food and Agricultural Organizations defines food security as the condition in which "all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" [26]. However, the absence of any component including cultural acceptability of

food and stability of food availability, access or/and utilization results in food insecurity [9].

Household food insecurity is a critical variable for understanding the nutritional status of children in low income countries; as low income is associated with poor diet, food insecurity, and poor child health [1]. Child under nutrition in Ethiopia is a concern for the households with poor economic level and it covers large areas and affects significant number of people [21]. Evidence showed that more than 12 million people in Ethiopia are chronically food insecure [2].

In Ethiopia, magnitude of both under nutrition and food insecurity is very high in rural areas where livelihood depends on backward farming system [22]. The nutritional consequences of food insecurity experience include underweight, stunting and wasting, depending on a broad range of contextual, economic and socio cultural factors [12].

According to a study done in Tigray, the prevalence of stunting, underweight and wasting in food insecure households was high and 52.1%, 20.5% and 12.6%, respectively, while in food secure households was 46.1%, 18.1% and 7.1% for the above three indices [15].

Recognizing this, Ethiopia is striving forward to ensure food security and become food self-sufficient as food security is one of the pillars of improved nutrition status. Nevertheless, it does not necessarily mean that food secure households are nutritionally secure; as malnutrition is common in many food secure households [12]. Food insecurity might further compound nutritional problems because of food shortage leading to inadequate food intake and dietary diversity. Therefore, the objective of this study is to review the nutritional and food security status of children under five years old in Ethiopia.

2. Review on Related Literature

2.1. The Situation of Malnutrition in Ethiopia

In Ethiopia, the prevalence of children stunted, underweight and wasted was reduced to 40%, 9% and 25%, respectively [3]. However, the prevalence of malnutrition among different regions of Ethiopia is varied. For example, in Tigray, Afar and Oromia region, the prevalence of children stunted was 44.4%, 49.2% and 37.5%, respectively while underweight was 30.1%, 45.6% and 27.9%, respectively in these regions of Ethiopia [3].

A study done in Northern Ethiopia showed that the prevalence of children stunted, underweight and wasted in food insecure households was 54.2%, 40.2% and 10.6%, respectively [16]. Another study done in Oromia, Ethiopia also reported that the prevalence of stunting, underweight and wasting among children under five years was as high as 47.6%, 30.9% & 16.7%, respectively [17].

2.2. Nutritional and Household Food Security Status of Children

Globally, about 842 million people were incapable of getting their dietary energy requirements. Out of these 842

million, the vast majority of hungry people (98.2%) live in developing regions [11].

In terms of food security, Ethiopia is one of the seven African countries that constitute half of the food insecure population in Sub-Saharan Africa [24]. About 10% of Ethiopia's citizens are chronically food insecure and 2.7 million people required emergency food assistance in 2014 and 238,761 children required treatment for severe and acute malnutrition in 2014 [6].

According to the study done in West Gojjam, food insecurity was significantly associated with wasting [18]. It was also reported that the prevalence of being stunted or underweight were significantly higher for children in food insecure households of Bangladesh, Ethiopia and Vietnam [1].

2.3. Child Feeding Practices and Nutritional Status of Children

Appropriate feeding practices and optimal nutrition during childhood is critical to ensuring optimal child health and development [26]. Inappropriate child feeding practices and inadequate dietary intake are significant threats to child health [23]. Child feeding practices in early life are important as they determine health and development of person's entire lifetime [19]. For the growth and development of a child, the impact of feeding practices is more significant than lack of food.

Inappropriate feeding of the child during early childhood due to lack of mothers/caregivers knowledge stands out as a major determinant of childhood malnutrition [10]. Available evidence shows that children who limited specific food groups due to poor feeding practices had low height for-age z score [25].

Ethiopia is a large country with cultural diversification reflected by different feeding habits and traditional feeding practices [7]. Traditional feeding practices are those practices that are directly related to the nutritional and dietary aspects of feeding. According Ethiopia's Demographic and Health Survey in 2011, about 18% of poor child feeding practices are attributed to child malnutrition in poor households of Ethiopia [8].

2.4. Dietary Diversity and Nutritional Status of Children

All people need a variety of foods to meet requirements for essential nutrients. Consumption of adequate foods contributes to improved growth, health and development of young children [26]. However, lack of dietary diversity is a problem at any age, but it is particularly critical for infants and young children during the complementary feeding period [23]. Besides, nutritionists have long recognized children dietary diversity as a key element of high quality diet and increasing the variety of foods consumed by most dietary guidelines [26]. As dietary diversity is improved, it ultimately increases the energy and nutrients intake and thus, is significantly associated with weight-for-age, length-for-age and weight-for length [4].

Emphasizing dietary diversity especially in developing countries is particularly important for micronutrient status and nutrient adequacy. However, it was shown to be strongly

dependent on household's socioeconomic status [1]. Families with greater incomes tend to have diets that are more diverse and their children grow better for a number of reasons [5].

According to a study done in Sri Lanka, the main food groups (staple foods) consumed by children in a household

were cereals, roots and tuber products while animal source foods and dairy products were generally less consumed [14]. Consequently, chronic under nutrition is very high among children who ate monotonous, undiversified diets [13].

Table 1. The Main Reviewed articles.

Authors /year	Title of the studies	Study designs
Kahsay <i>et al.</i> , 2015	Nutritional Status of Children aged 6-59 months from Food Secure and Food Insecure Households in Rural Communities of Saesie Tsaeda-Emba District, Tigray, North Ethiopia	A Comparative Cross sectional
Motbainor <i>et al.</i> , 2015	Stunting Is Associated with Food Diversity while Wasting with Food Insecurity among Underfive Children in East and West Gojjam Zones of Amhara Region, Ethiopia	Cross sectional
Endalew <i>et al.</i> , 2015	Assessment of Food Security Situation in Ethiopia:	A Review
Kebede <i>et al.</i> , 2012	Nutritional Status of Children in Food Insecure Households in Two Districts of North Showa Zone, Ethiopia.	Cross sectional
Sarah <i>et al.</i> , 2013	Targeting Food Security Interventions: The Case of Ethiopia's Productive Safety Net Program.	Food security Intervention
Yalew, 2014	Prevalence of malnutrition and associated factors among children aged 6-59 months at Lalibela Town Administration, North Wollo Zone, Anrs, Northern Ethiopia	Cross sectional
Hirvonen & Hoddinott, 2014	Targeting food security interventions when "everyone is poor": The case of Ethiopia's Productive Safety Net Programme.	Food security Intervention
Bokora, 2015	The Role of Safety Net in Ensuring Food Security: The Case of East Harerghe Zone.	Food security Intervention
Ali <i>et al.</i> , 2013	Household Food Insecurity Is Associated with Higher Child Under nutrition in Bangladesh, Ethiopia, and Vietnam, but the Effect Is Not Mediated by Child Dietary Diversity.	Intervention

4. Conclusion

In Ethiopia, food insecurity and poor quality diets are the major reasons attributed to childhood malnutrition. Many scholars found that food insecurity, dietary diversity and child feeding practices were the significant determinants of under nutrition among children under five years old. This review concluded that the magnitude of under nutrition of children in food insecure households was higher compared to those children from food secure households. It is therefore factors associated with nutritional and food security status of children under five years in Ethiopia should be taken into account to improve the health status of children since they are vulnerable groups.

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