Blind to prevent wasting: Data gaps exist to identify factors that drive decline in acute malnutrition

THE PROBLEM

Ethiopia has a high burden of acute malnutrition; 10 % of children under five years of age are wasted[1]. Additionally, wasting rates have stagnated over the past two decades[1,2]. If the current trend continues, Ethiopia will not achieve the World Health Assembly (WHA) target of reducing and maintaining wasting to less than 5% by 2025[3]. The estimated economic burden of treatment of acute malnutrition in Ethiopia is between 150-225 million USD annually[4]. The cost of supplies and human resources allocated to treat acute malnutrition are the main contributors to the economic costs[4]. The high burden of acute malnutrition, coupled with the slow progress in the reduction, warrants the implementation of evidence-based preventive interventions[5]. However, gaps still exist in our understanding of context-specific risk factors of acute malnutrition. This brief describes the patterns of acute malnutrition and identifies risk factors that have contributed to the change in acute malnutrition among children under five years of age between 2000-2016.

METHODOLOGY

We used data from the four rounds of the nationally and regionally representative Ethiopia Demographic and Health Survey (2000, 2005, 2011 and 2016) to explore the patterns and risk factors of acute malnutrition. A total of 21,923 children aged 0-59 months were included in the analysis. We pooled data from 2000-2016 to identify risk factors that are associated with acute malnutrition and quantified the estimated contribution of change in these factors to the change in acute malnutrition between 2000 and 2016.

Photo credit: UNICEF/Ethiopia/ 2014/Bizuwerk

KEY FINDINGS

The sharpest increase in acute malnutrition occurs between birth to 6 months of life

For Ethiopian children, the sharpest decline by age in weight-for-height z score (WHZ), an indicator of acute malnutrition, was from birth to six months.

Less than 50% of the change in acute malnutrition was explained using available data.

More than 50% of the improvement in WHZ was unexplained highlighting data gaps to understand context-specific risk factors (Figure 1). In children aged 6-23 months, an improvement in wealth score contributed to 15% of the total decline in acute malnutrition. Reduction in diarrhea and an increase in birth weight contributed to 15% and 7% of the decline in acute malnutrition, respectively. Among children aged 24-59 months, a reduction in low birth weight contributed to 9% of the decline in acute malnutrition. Acute malnutrition did not significantly change between 2000 and 2016 among children aged 0-5 months.

1. Central Statistical Agency [Ethiopia] and ICF. Ethiopia demographic and health survey 2016. Addis Ababa, Ethiopia and Calverton, Maryland, USA: CSA and ICF; 2016.
2. Central Statistical Agency [Ethiopia] and ORC Macro. Ethiopia demographic and health survey 2000. Addis Ababa, Ethiopia and Calverton, Maryland, USA: CSA and ORC Macro; 2001.
3. WHO. UNICEF and EU. Global Targets 2025: Ethiopia country progress report WHO, UNICEF and EU 2018.
4. Laillou A, Baye K, Meseret Z, Darsene H, Rashid A, Chitekwe S. Wasted Children and Wasted Time: A Challenge to Meeting the Nutrition Sustainable Development Goals with a High Economic Impact to Ethiopia. Nutrients 2020;12(12).
5. UNICEF, WFP, WHO, UNHCR, FAO. Global Action Plan (GAP) on Child Wasting: A framework for action. 2020.

Factors that are associated with acute malnutrition were not the same across different age groups

Among children aged 0-5 months, significant predictors of acute malnutrition include perceived low weight at birth, recent diarrhea, exclusive breastfeeding, and access to basic water (Figure 2). Perceived low weight at birth continued to be a significant predictor of acute malnutrition among children aged 6-23 months. In children aged 24-59 months, perceived low weight at birth, recent diarrhea, receiving 4 or more ANC visits, wealth and maternal education were significant predictors of WHZ acute malnutrition.

Figure 1: Contribution of risk factors to change in WHZ between 2000 and 2016

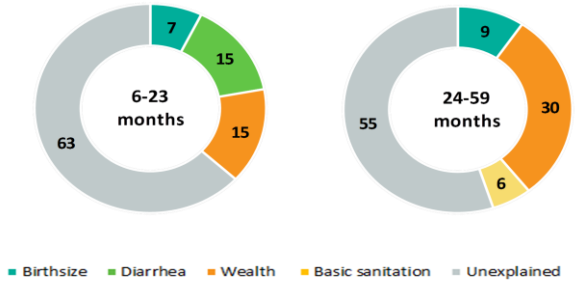
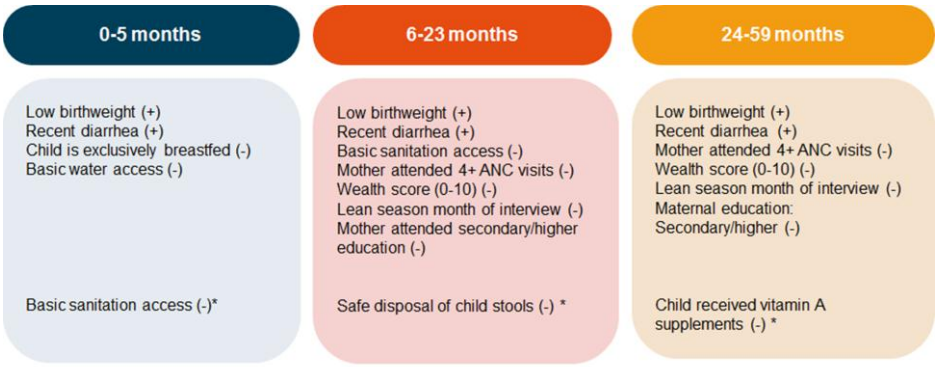


Figure 2: Map of factors associated with acute malnutrition in children aged 0-5, 6-23 and 24-59 months in Ethiopia.



(+): positive association, (-): negative association * weak strength of evidence ANC: antenatal care

ACTIONS TO PREVENT WASTING IN ETHIOPIA

ACTION 1: INCREASE THE COVERAGE OF INTERVENTIONS THAT ARE AIMED AT IMPROVING MATERNAL NUTRITION TO REDUCE LOW BIRTH WEIGHT

Our findings show that the first six months after birth are critical time points to prevent wasting. Specific interventions that can be implemented at this stage include increased coverage of iron/folic acid supplementation during pregnancy and targeted supplementary feeding for vulnerable pregnant women.

ACTION 2: INCREASE COVERAGE OF INDIRECT INTERVENTIONS SUCH AS WASH SERVICES

Coverage of basic water, sanitation and hygiene (WASH) services should be scaled up along with coverage of oral rehydration solution and zinc treatment to manage diarrheal diseases.

ACTION 3: GENERATE MORE EVIDENCE TO FILL EXISTING DATA GAPS TO BETTER IDENTIFY RISK FACTORS FOR WASTING

The current understating of Ethiopian specific factors that are causing acute malnutrition is limited due to two main factors; the lack of data on important risk factors and the lack of data over time. These challenges can be addressed by the strategies outlined below;

ADVOCATE FOR THE INCLUSION OF MORE RISK FACTORS IN NUTRITIONAL SURVEYS: Information on important risk factors such as drought, seasonal changes in food security, infection, food intake, and utilization of acute malnutrition treatment services is not collected in population-based surveys.

ADVOCATE FOR THE IMPLEMENTATION OF LONGITUDINAL STUDIES: Longitudinal studies that measure individual-level nutritional status overtime can better elucidate causal pathways and identify preventive interventions.

FURTHER INFORMATION: The extended brief and the manuscript from which information for this summary was drawn from are available on the NIPN website (http://www.nipn.ephi.gov.et/).

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