Child Nutrition Bulletin
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INTRODUCTION

Nepal is a signatory to the United Nations Millennium Declaration and its eight Millennium Development Goals (MDGs). Continuous monitoring of nutrition indicators, such as underweight among children less than 5 years of age, is essential for tracking the progress of the country in achieving the MDG targets (specifically MDG1: the eradication of extreme poverty and hunger). Currently, there is no nationwide monitoring system that collects nutritional indicators on a regular basis to assess how feeding and care practices, and the prevalence of malnutrition change over time. To address this concern, and to better elucidate the relationship between child nutrition and food security in Nepal, the World Food Programme (WFP) and Helen Keller International (HKI) have taken the joint initiative to include nutrition information as part of the Nepal Food Security Monitoring System (NeKSAP).

This bulletin supplements *Nepal Food Security Bulletin #28*, and represents the first in a series of quarterly surveillance reports. The series will capture seasonal variability in feeding practices and nutritional status, and can assist with the efficient targeting and allocation of resources for nutrition-related development and emergency activities.

METHODOLOGY

Child nutrition and food security data were collected on the families of 491 children aged 0-59 months during the period from April-June 2010. Two sampling methodologies were utilized in this round: probability sampling and sampling by food security phase. (*See the sampling methodology document for details on the procedures).* Information on IYCF (Infant and Young Child Feeding) practices and child illnesses were obtained through interviews with mothers, and children's mid-upper arm circumference (MUAC) was measured to assess acute malnutrition. In the analysis phase, prevalence estimates and cross-tabulations are based on the probability sample (n=291). When conducting cross-tabulations by food security phase, prevalence was estimated from the total sample (n=491). Future bulletins will increase the sample size in order to improve estimates when stratifying by variables of interest such as age, ecological belt and demographic factors.

FINDINGS

Acute Malnutrition

Among children 6-59 months, 15.1% of children in the sample are found to be suffering from acute malnutrition: 2.4% from severe acute malnutrition (MUAC <115mm) and 12.7% from moderate acute malnutrition (115mm≤MUAC <125mm). Although the sample is smaller than the 2006 Nepal Demographic and Health Survey, these results are relatively consistent with its findings, which estimate that 13% of children under 5 years are wasted, and 3% are severely wasted. **Table 1** presents the prevalence of malnutrition stratified by demographic variables. As might be expected, children from households in the poorest quartile and households categorized as having borderline or poor food consumption, based on the WFP food consumption score, have a higher prevalence of acute malnutrition.

Table 1: Prevalence of Acute Malnutrition by Demographic Characteristics	
Child's Gender	
Male (n=135)	14.8%
Female (n=117)	15.4%
Ecological Belt	
Hill (n=112)	12.5%
Mountain (n=52)	17.3%
Terai (n=88)	17.0%
Wealth Quartile	
Poorest (n=51)	23.6%
Poor (n=61)	11.5%
Richer (n=61)	14.8%
Richest (n=54)	11.1%
Household Food Consumption Group	
Poor or Borderline (n=94)	22.4%
Acceptable (n=157)	10.8%
TOTAL (n=252)	**15.1%**

Figure 1 highlights the prevalence of acute malnutrition by food security phase. Children living in VDCs classified as 'highly food insecure' (Phase 3) had the highest rates of acute malnutrition (26.1%), followed by 19.0% of children in moderately food insecure VDCs ('moderately food insecure' Phase 2), and 14.6% of children in food secure VDCs ('food secure' Phase 1). No VDCs were classified as 'severely food insecure' (Phase 4) or higher during this round of data collection, which occurred during the post harvest season in Nepal.

Figure 1: Prevalence of Acute Malnutrition by Food Security Phase
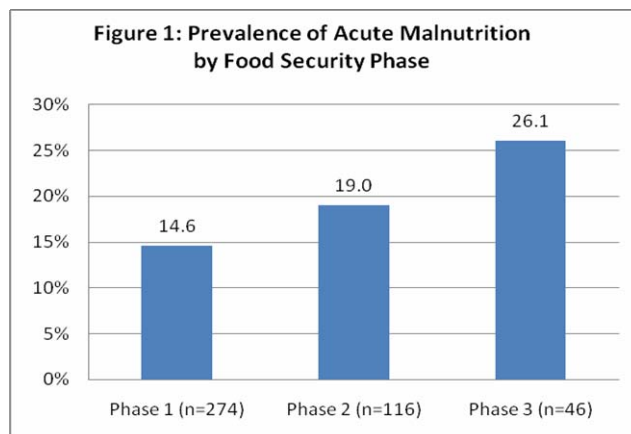
Complementary Feeding and Dietary Diversity

To assess complementary feeding practices, the team analyzed minimum dietary diversity and age-specific minimum meal frequency. Based on the WHO and UNICEF guidelines, minimum dietary diversity for breastfed children aged 6-23 months include foods from at least four of the following categories: 1) grains, roots and tubers; 2) legumes and nuts; 3) dairy products; 4) fresh foods; 5) eggs, 6) vitamin-A rich vegetables and fruits; and 7) other fruits and vegetables. Minimum meal frequency is defined as solid, semi-solid or soft food twice per day for breastfed children aged 6-8 months, and three times daily for breastfed children 9-23 months. The surveillance also assessed prevalence of minimum acceptable diet, which is a composite indicator of dietary diversity and meal frequency.
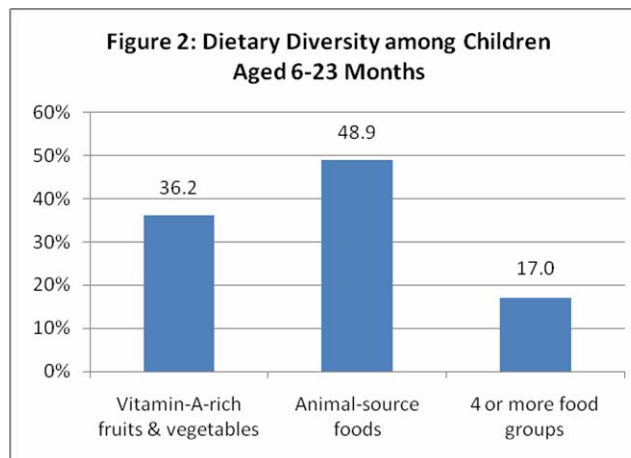
Among children aged 6-23 months in the probability sample (n=94), 97.0% were breastfed; however, complementary feeding practices were far from optimal. For children aged 6-8 months, 90.9% received complementary food in accordance with minimum meal frequency requirements, and 82.5% of children aged 9-23 months received the appropri-

Figure 2: Dietary Diversity among Children Aged 6-23 Months

ate number of meals per day. However, only 18.0% of children aged 6-23 months received the minimum in dietary diversity. These two indicators combined resulted in only 17.0% of children in this age group receiving the minimum acceptable diet. Of particular concern is the fact that only 49.0% of children aged 6-23 months in the sample received animal-source foods, and an even smaller proportion (37.0%) received vitamin-A rich fruits and vegetables.

Care of Sick Children

Care-takers reported that 30.0% of children aged 0-59 months from the probability sample had suffered from diarrhea in the last two weeks, 17.0% had an acute respiratory infection and 36.7% suffered from another illness. Accounting for the overlap of illnesses, 55.5% of children were recorded as suffering an illness in the last two weeks. These estimates are much higher than those estimated by DHS 2006. This is likely due to a combination of seasonal variability, question interpretation among mothers, and differences in sampling, particularly the monitoring sample's sole focus on rural areas. Comparing these prevalence estimates to those of future surveillance bulletins will better enable enhance understanding of the impact of seasonal variation on the prevalence of illnesses. It is worth noting, however, that mothers who reported having sick children described sub-optimal feeding practices. Despite recommendations to increase feeding frequency during illness and for the two weeks after illness, in the probability sample, sick children aged 6-59 months (n=127) were fed on average 3.35 meals per day compared to the 3.60 meals fed to healthy children (n=117).

CONCLUSION

These findings confirm the widespread prevalence of acute malnutrition, as well as sub-optimal infant and young child feeding practices in Nepal. The data collected and analyzed in this bulletin represent an essential first step in the development of an up-to-date child nutrition and food security surveillance system. The next bulletin, which will cover July through September 2010, will address feeding practices and malnutrition during the traditional hunger season, and will enable policy-makers and program planners to better understand the seasonal variability of malnutrition and its relationship to food security in Nepal.