Full Length Research Paper

Nutritional status of under- five children in Mongolia

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Abstract

This study describes the nutritional status of children under-five years of age in Mongolia. This cross-sectional survey was conducted in all 21 provinces of the 4 economic regions of the country and capital Ulaanbaatar city. This is a two-stage cluster-sample survey that was performed in 2010. In total, 400 households were randomly selected based on local administrative and district/family hospital registry. A total of 706 children aged 0-59 months were selected from sampled households, which was consistent with the survey plan to sample 670 children from 2,000 households were assessed via questionnaire and anthropometric measurements. The prevalence of stunting, wasting and underweight were 15.6%, 1.7% and 4.7% respectively. Stunting was highest among the 24-35 months age group (20.8%). A statistically significant difference (p < 0.005) was found between rural and urban area with regard to stunting. Geographically, region-specific prevalence rates of stunting ranged from 9.0% in Ulaanbaatar to 33.1% in the Western Region. Findings suggest the need to implement evidence-based child health policy and strategies, prioritizing the poor and socially disadvantaged population. Intervention efforts should especially focus on the Western Region to improve protein energy malnutrition measures.

Keywords: Mongolia, nutritional status, overweight, underweight, stunting, wasting.

INTRODUCTION

Malnutrition is an important indicator of child health. A significant contributing factor to infant and child mortality, poor nutritional status during childhood also has implications for adult economic achievement and health (Victora et al., 2008). Worldwide, over 10 million children under the age of 5 years die every year from preventable and treatable illnesses despite effective health interventions (Ahmad et al., 2000; World Health Organization. The World Health Report 2003: Shaping the Future. Geneva: World Health Organization; 2003). In developing countries, malnutrition is a major health problem (Caulfield et al., 2004).

The Mongolian government is considers prevention from diseases as one of the most effective and low cost methods in health care services. At the same time, it also considers a reduction of chronic malnutrition among children as one of the top public health priorities.

Mongolia's total population as of July 2007 is esti-

mated by U.S. Census Bureau at 2,612,900 people ranking at around 138th in the world in terms of population. It has a very small population relative to its two border neighbors, Russia and the People's Republic of China. Mongolia's population growth rate is estimated at 1.2% (2007 est.). About 59% of the total population is under age 30, 27% of whom are under 14. This relatively young and growing population has placed strains on Mongolia's economy.

Since the end of socialism, Mongolia has experienced a decline of total fertility rate (children per woman) that is steeper than in any other country in the world, according to recent UN estimations: in 1970-1975, fertility was estimated to be 7.33 children per woman, but 2005-2010 prospects are 1.87 (4 times less).

Mongolia has become more urbanized. About 40 percent of the population lives in Ulaanbaatar, and in 2002 a further 23% lived in Darkhan, Erdenet, the provinces centers and sum-level permanent settlements. Another share of the population lives in the sum centers. In 2002, about 30 percent of all households in Mongolia lived from breeding livestock. Most herders in Mongolia follow a pattern of nomadic or semi-nomadic pastoralism.

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The climate has strong continental features and is harsh with exceptionally sharp variation not only during the seasons but also in a course of a day. Mongolia also experiences great extremes in her climate: constant high atmospheric pressure, low humidity and average yearly temperature of below freezing point over the large of territory, with the exception of the east and southern regions, which have yearly average of +4 Celsius. Moreover, the unfavorable climate condition which severely affected the food system is the short frost free period of only 100-130 in the greater part of the territory and 80- 90 in the mountainous North.

Since 1990, key health indicators like life expectancy and infant and child mortality have steadily improved, both due to social changes and to improvement in the health sector. However, serious problems remain, especially in the countryside. Average childbirth (fertility rate) is around 2.25 - 1.87 per woman (2007) and average life expectancy is 67-68 years. Infant mortality is at 1.9%-4% and child mortality is at 4.3%. Mongolia has already achieved (at least 75% of their targets) the Millennium Development Goals (MDGs) on both the under five and infant mortality (Achieving the health-related MDGs in the Western Pacific Region (WHO Progress Report, 2010)

Several assessments of nutritional status have been done in the recent past in Mongolia with the support from UNICEF. These assessments include the First National Nutrition Survey (1992), the Second National Nutrition Survey (1999), a Survey Assessing the Nutritional Consequences of the Dzud in Mongolia (2001), the Third National Nutrition Survey (2004) and the Multiple Indicator Cluster Survey (2005).

The 2005 Multiple Indicator Cluster Survey (MICS) conducted by the National Statistical Office of Mongolia found that of the prevalence stunting 26.8%, underweight 7.4% among children aged 0-59 months (Child and Development 2005 Survey (Multiple Indicator Cluster Survey 3): Final Report. Mongolia NSO, UNICEF; Ulaanbaatar, 2007). The importance of assessing population nutritional status every 5 years is widely recognized, and three rounds of the National Nutrition Survey have been carried out in Mongolia since 1992 with support from UNICEF. The most recent Third National Nutrition Survey was carried out with the purpose of assessing the nutritional status of Mongolian children and women six years ago in 2004.

Therefore, it is important to conduct this survey to assess the prevalence malnutrition and to identify the next steps to improve child nutrition in the light of rapid changes in dietary practices and socioeconomic conditions.

SUBJECTS AND METHODS

The current cross-sectional survey was conducted all 21 provinces of the 4 economic regions of the country and capital Ulaanbaatar city. Household was randomly selected based on local administrative and district/family hospital registry. In total, 400 households were randomly selected from each of the 4 economic regions and Ulaanbaatar city, and household members belonging to target population groups most vulnerable to various forms of malnutrition were enrolled in the survey. Multistage cluster sampling was used in the current survey. A total of 125 primary sampling units was selected from 420 sampling units of MICS in 4 the economic regions and Ulaanbaatar city (25 units from each), followed by multistage random sampling of households from sampling units. Data for the National Nutrition Survey was collected by eight teams with 5 members each headed by the Nutrition Research Center of Public Health Institute in collaboration with Departments of Health of provinces and 8 districts of Ulaanbaatar city. Survey data collection was done between July 19 and September 25 in 2010. Data were gathered using a combination of a structured questionnaire and the collection of anthropometric data such as length/height and weight and were defined using the World Health Organization reference 2006 (World Health Organization: WHO Child Growth Standards. [http://www.who.int/growthref/en).

Description of sample

A total of 706 children aged 0-59 months were selected from sampled households, which was consistent with the survey plan to sample 670 children from 2,000 households.

As can be seen from Figure 1, the age distribution of the surveyed children was more or less homogenous with a slight predominance of children aged 0-36 months. Mongolia has a relatively well functioning vital registration system, and the literacy rate of caregivers who provided information about child's date of birth was comparatively high; thus, allowing a degree of confidence in the accuracy of child age recorded by the survey team. This was also demonstrated by the fact that not so many children were reported to be exactly 12, 24, 36 or 48 months of age. Most subgroup analyses of outcomes by age used one of three different age classifications. The distribution of children according to age groups, as well as by sex and region, is shown in table 1 below.

There is a relatively equal representation of children from different regions and the two sexes. Of surveyed children, 326 (58.9%) are considered urban because they live in provinces centers or Ulaanbaatar, and 380 (41.1%) are considered rural because they live outside these urban centers.

Socio-demographic, health, and anthropometric status assessment

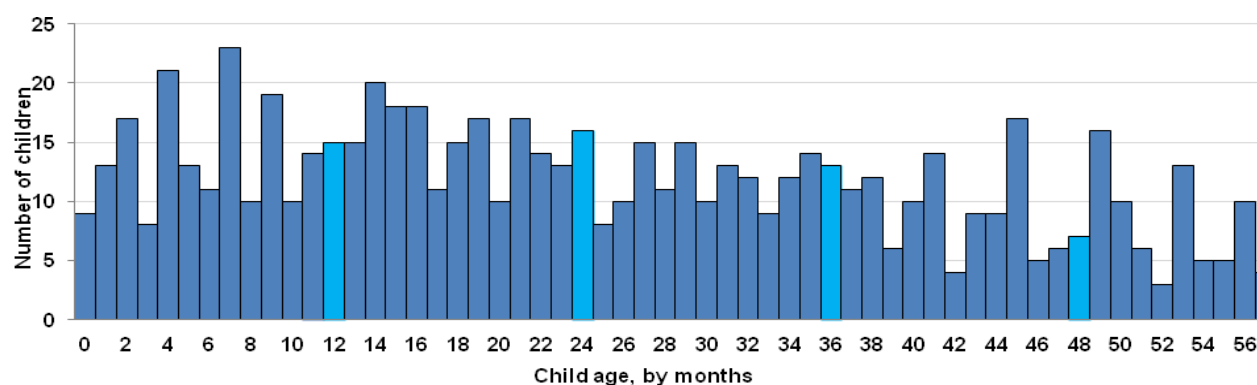Child growth was assessed based on z-scores calculated

Figure 1. Age of surveyed children, months

Table 1. Number of surveyed young children, by age, gender and region

	Western		Khangai		Central		Eastern		Ulaanbaatar		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Age groups												
0-5	17	11.4	17	11.5	15	12.7	20	12.7	12	9.0	81	10.8
6-11	17	11.4	17	11.5	9	7.6	29	18.4	15	11.3	87	11.4
12-17	14	9.4	21	14.2	24	20.3	16	10.1	22	16.5	97	15.0
18-23	15	10.1	18	12.2	21	17.8	19	12.0	13	9.8	86	11.8
24-29	14	9.4	18	12.2	8	6.8	19	12.0	16	12.0	75	10.9
30-35	16	10.7	17	11.5	7	5.9	18	11.4	12	9.0	70	9.6
36-41	19	12.8	13	8.8	10	8.5	10	6.3	14	10.5	66	9.7
42-47	17	11.4	7	4.7	5	4.2	7	4.4	14	10.5	50	7.8
48-53	10	6.7	19	12.8	10	8.5	7	4.4	9	6.8	55	8.2
54-59	10	6.7	1	0.7	9	7.6	13	8.2	6	4.5	39	4.8
Gender												
Boys	71	47.7	73	49.3	66	55.9	71	44.9	69	51.9	350	50.7
Girls	78	52.3	75	50.7	52	44.1	87	55.1	64	48.1	356	49.3
Total	**149**		**148**		**118**		**158**		**133**		**706**	

using the WHO Child Growth Standard.
•   A weight-for-age z-score below -2 standard division (SD) is considered "underweight"
•   A length or height-for-age z-score below -2SD is considered "stunting"
•   A weight-for-length or height z-score below -2SD is considered "wasting"
•   A weight-for-height or length z-score above +2SD is considered as "overweight"
•   Clinical examination (observation and palpation) was performed in under-five children to detect presence of edema of the feet or lower limbs.

Statistical analysis

Survey data was analysed using PASW statistics 18.0

and EPI INFO 2000 software. Frequencies of categorical variables and mean averages of continuous variables were calculated along with 95% confidence interval. For calculation of overall measures for the entire survey sample, region-specific estimates were weighted using standardized statistical weights on selection probability.

The statistical significance of differences in prevalence and measures of central tendency between subgroups were calculated using, 95% confidence interval and chi-square p value.

Ethics

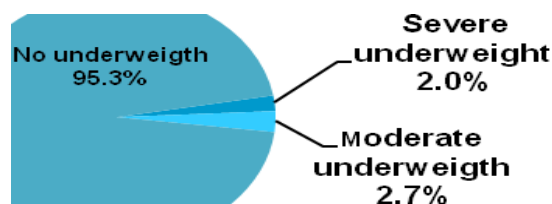The Ethics Committee under the auspices of the Ministry of Health approved the study.

Figure 2. Proportion of underweight children, by grades

Table 2. Prevalence of underweight, by region and residence

Location	Total number	Underweight (Z<-2SD)					
		Severe (Z<-3SD)		Moderate (-3CX≤ Z <-2SD)		Total (Z<-2SD)	
		%	95%CI	%	95%CI	%	95%CI
Region							
Western	149	2.0	0.3-13.0	6.7	3.3-13.0	8.7	4.6-16.0
Khangai	147	2.7	0.9-8.3	3.4	1.5-7.5	6.1	2.7-13.4
Central	118	2.5	0.8-7.4	2.5	0.9-7.2	5.1	2.2-11.5
Eastern	157	1.3	0.3-4.6	6.4	3.2-12.4	7.6	4.3-13.2
Ulaanbaatar	133	1.5	0.2-9.7	0	-	1.5	0.2-9.7
Residence							
Urban	324	1.3	0.3-5.7	1.5	0.7-3.0	2.8	1.3-6.3
Rural	380	2.9	1.3-6.3	4.4	2.7-7.2	7.3	4.7-11.4

Table 3. Prevalence of underweight, by age group and gender

Variables	Number of children	Underweight	
		%	95%CI
Age group, months			
0-11	167	5.5	2.0-14.4
12-23	183	4.5	2.4-8.2
24-35	145	5.9	2.8-12.0
36-47	115	4.3	2.1-8.5
48-59	94	2.3	0.9-6.2
Gender			
Boys	349	5.3	3.2-8.3
Girls	355	4.0	2.4-6.8

RESULTS

Underweight

Of the total 704 children, 4.7% (95%CI 3.1-7.0) were underweight in Figure 2. The prevalence of underweight in young children by region and place of residence is demonstrated in Table 2.

The prevalence of underweight in 0-59 month-old children was lowest in Ulaanbaatar and highest in Western Region. Three regions (Western, Khangai, Eastern) have a prevalence of underweight which is statistically significantly greater than the 2.3% found in the WHO Growth Standard, demonstrating an elevated prevalence of underweight in these regions. Rural children had statistically significantly greater prevalence rates of any underweight and moderate underweight than urban children (Chi-square x^2=8.59, p < 0.003) in Table 2.

Children less than 24 months of age had a prevalence of 5.0% (95%CI 2.7-8.8), and children 24-59 months of age had a prevalence of 4.4% (95%CI 2.8-7.1). As shown in table 3, there was no clear trend in the prevalence of underweight by age when analysis was done by 1-year age groups.
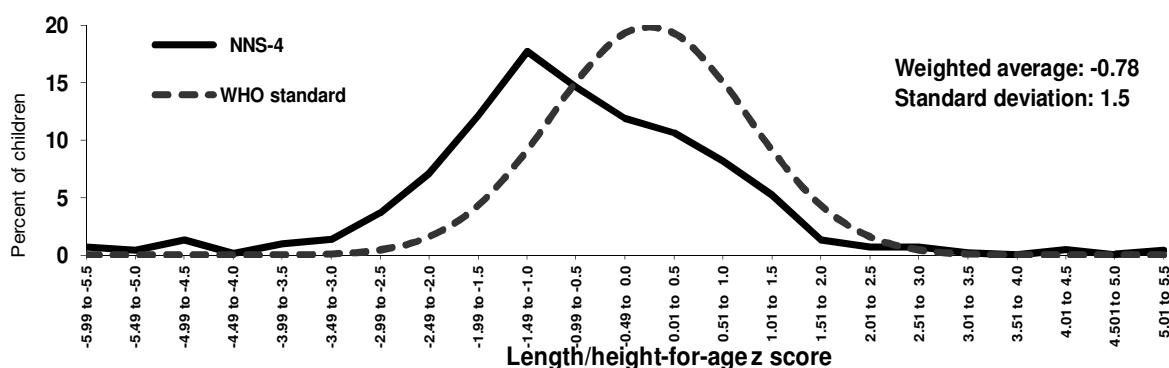
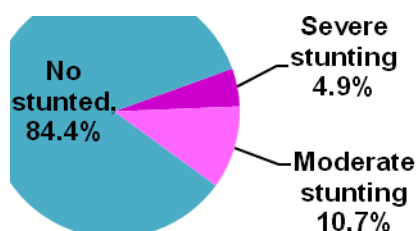**Figure 3.** Distribution of length/height-for-age Z score

Figure 4. Proportion of stunted children under 5 years, by degree

Table 4. Prevalence of stunting, by region and residence

Location	Total number	Severe (Z<-3SD)		Moderate (-3SD≤ Z <-2SD)		Total (Z<-2SD)	
		%	95%CI	%	95%CI	%	95%CI
Region							
Western	148	12.8	7.1-22.0	20.3	14.7-24.3	33.1	24.8-42.6
Khangai	144	2.8	0.9-8.4	13.2	7.4-22.4	16.0	9.2-26.2
Central	118	4.2	1.5-11.3	9.3	4.7-17.6	13.6	7.5-23.2
Eastern	156	7.1	3.6-13.5	11.5	7.7-16.9	18.6	13.5-24.1
Ulaanbaatar	133	3.0	0.9-9.2	6.0	3.4-10.3	9.0	5.8-13.7
Residence							
Urban	322	3.0	1.4-6.6	8.4	5.9-11.8	11.4	8.5-15.1
Rural	377	7.5	4.7-11.8	13.9	10.1-190	21.5	16.3-27.7

Stunting

As shown in figure 3, the distribution of length/height-for-age Z-scores of the surveyed children was shifted to the left compared to the WHO Child Growth Standard. The weighted average z-score and its standard deviation was 0.78±1.5.

Of the surveyed total 699 children, 15.6% (95%CI 12.7-18.9) were stunted. As seen in figure 4, about one-third of stunted children had severe stunting.

The prevalence of stunting in children under 5 years was lowest in Ulaanbaatar, and, with the exception of Central Region, the differences between Ulaanbaatar and the other regions were clearly statistically significant (Chi-square x^2=31.45, p< 0.001) in Table 4.

The prevalence of stunting was highest in the Western Region, and differences between this region and all other regions were statistically significant. As shown in table 4, rural children had statistically significantly prevalence rates of overall stunting, moderate stunting, and severe

Table 5. Prevalence of stunting, by age group and gender

Variables	Number of children	Stunting (Z<-2SD)	
		%	95%CI
Age group, months			
0-11	166	7.8	3.7-15.8
12-23	182	18.7	13.0-26.1
24-35	143	20.8	13.9-29.9
36-47	114	15.1	10.1-22.1
48-59	94	14.8	8.9-23.7
Gender			
Boys	347	16.4	12.6-20.9
Girls	352	14.7	11.3-18.9
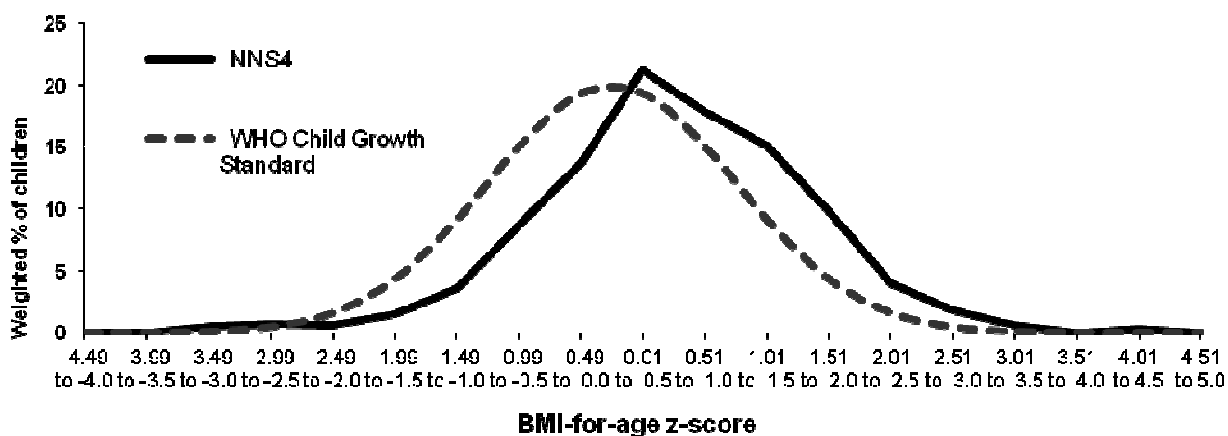
Figure 5. Distribution of weight-for-height z-score

stunting than their urban counterparts (Chi-square x^2=13.75, p< 0.001).

The prevalence of stunting was lowest in 0-11 month age group, and the differences between this age group and the other age groups is statistically significant (Chi-square x^2=17.30, p< 0.002). Although the prevalence of stunting seems to peak in second and third years of life children table 5.

Wasting

As shown in figure 5, the distribution of weight-for-height z-scores of the surveyed children was shifted to the right compared to the WHO Child Growth Standard. The weighted average z-score and its standard deviation was 0.50±1.

Overall, only 1.7% (95%CI 0.9-3.3) of children 0-59 months of age was wasted.

Wasting was not common in any region and there were no difference between girls and boys. Moreover, the prevalence of wasting in all regions was not statistically significantly different from the 2.3% found in the WHO Child Growth Standard (Table 6).

Overall, prevalence wasting in urban and rural children 0-59 months of age was not statistically significantly (Table 7)

Over nutrition

We found that 6.6% (95%CI4.8-9.1) of children had overnutrition, 5.7% were overweight and 0.9% was obese.

The prevalence of overnutrition was higher in Western Region and Ulaanbaatar; however, few differences between regions are statistically significant. Nonetheless, in all regions except Khangai, the prevalence of overweight and obesity was statistically significantly higher than the 2.3% found in the WHO Child Growth Standard.

Low birth weight and malnutrition

The overall proportion of children with low birth weight was 5.7% (95%CI 4.0-8.2). Underweight and stunting were much more prevalent in children who had low birth

Table 6. Prevalence of wasting, by gender and region

Location	Total number	Wasting (Z<-2SD)	
		%	95%CI
Region			
Western	149	2.7	1.1-6.6
Khangai	145	2.1	0.7-6.1
Central	118	1.7	0.4-6.7
Eastern	156	0.6	0.1-4.5
Ulaanbaatar	131	1.5	0.4-6.0
Gender			
Boys	346	1.5	0.7-3.4
Girls	352	2.0	0.8-5.0

Table 7. Wasting in children under 5 years, by place of residence

Residence	Number of children	Wasting (Z<-2SD)					
		Severe (z<-3SD)		Moderate (-3SD≤ z <-2SD)		Total (z<-2SD)	
		%	95%CI	%	95%CI	%	95%CI
Urban	320	0.5	0.1-3.4	1.0	0.3-3.4	1.5	0.5-4.1
Rural	378	0.6	0.2-1.9	1.6	0.6-3.7	2.2	1.1-4.3

weight. Of those with low birth weight, 35.5% (95%CI 18.4- 57.3) were underweight and 54.1% (95%CI 35.3-71.8) stunted children. Of those with normal birth weight, 2.5% (95%CI 1.5-4.3) were underweight, 12.9% (95%CI 10.4-15.9) stunted.

DISCUSSION

Knowing the prevalence rates of underweight, wasting, and stunting is important for determining the overall health of the community and for monitoring achievements toward mid-decade goals for nutrition and child health set by international organizations (Bloss et al., 2004; Measuring Progress towards the Health Millennium Development Goals. World Health Organization, 2006). Based on the main reports of the National Nutrition Surveys, which used the NCHS/WHO reference population (according to WHO criteria), Mongolia was considered as a low prevalence area for underweight, wasting, stunting. Currently, using the newly published WHO standards, we found that 72.3% of children had normal weight, 4.7% were underweight, 1.7% was wasted, 15.6% were stunted, and 5.7% were overweight. The 15.6% prevalence rate of stunting classifies the country as a moderate prevalence area rather than a low (severe) prevalence area. In the same year, the average prevalence of overweight children in the developing countries, as revealed by weight for height in reference to

NCHS/WHO standards was 3.3% (0.1%-14.4%) (de Onis and Blossner, 2000).

In developing countries and marginalized groups in affluent societies, undernutrition is increasing as a result of the debt crisis and consequent economic adjustment policies (Doak et al., 2005).

A stable reduction of child malnutrition, and further an elimination of child malnutrition fully viable in Mongolia, country with small population, a high level of education and well established system of population registration, health record keeping and monitoring (Nutritional Status of Mongolian Children and Women: Third National Nutrition Survey Report. NRC, UNICEF, and MOH Mongolia; Ulaanbaatar, 2004-2006).

Overall, the prevalence of underweight in children less than 5 years of age in Mongolia would be classified as low because it is less than 10% by WHO classification. However, the prevalence of stunting in Western Region is classified as "high" because it falls into the range of 30-39%. The overall estimate of the prevalence of wasting is statistically in distinguishable from that in the WHO Child Growth Standard, and is classified as "acceptable." In addition, the region-specific estimates of the prevalence of wasting are also all below 5%, and all prior surveys, even the survey completed after two consecutive dzud, have shown a low level of wasting.

The reported under nutrition indicators from previous regional studies were comparable to our data (Nutritional Status of Mongolian Children and Women: Third National
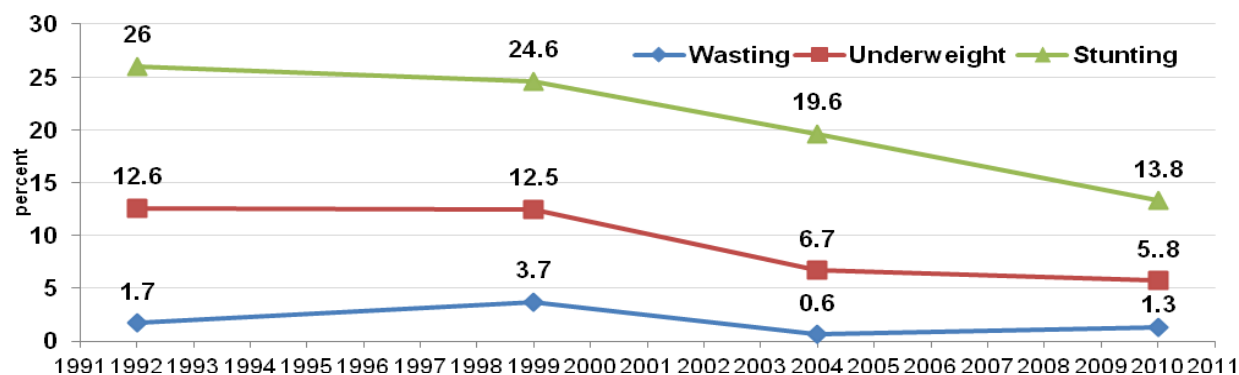
Figure 6. Trend of malnutrition among young children, by year

Table 8. Comparison of the prevalence of malnutrition assessed in 1992 and 2010

	Underweight (%):		Stunting (%)		Wasting (%)	
	1992(a)	2010(b)	1992(a)	2010(b)	1992(a)	2010(b)
Total	12.3	5.7	26.4	13.3	1.7	1.3
Decrease (%) ((b-a)/a*100)	53.6		49.6		23.5	

Nutrition Survey Report. NRC, UNICEF, and MOH Mongolia; Ulaanbaatar, 2004-2006; Nutritional Status of Population of Mongolia: First National Nutrition Survey. MOH Mongolia, UNICEF, NRC/PHI; Ulaanbaatar, 1992). Analysis of anthropometric measurements from the current survey calculated z-scores using the WHO Child Growth Standard released in 2006. However, analysis of prior surveys in Mongolia used the WHO: National Center for Health Statistics-Centers for Disease Control (NCHS-CDC) reference population to calculate z-scores. For this reason, in order to compare NNS IV to previous surveys, new z-scores were calculated using the WHO: NCHS: CDC reference population (Figure 6).

The results of the national nutrition surveys demonstrate that the prevalence of various forms of protein energy malnutrition in young children has been decrease. This decline was greater between the 1999 and 2004 surveys. But rates of stunting have fallen less rapidly than those for wasting and underweight and remain relatively high (Taking to scale IMCI, Implementation in Mongolia 2000- 2008, WHO. 2011). Stunting is an chronic undernutrition and suggests that long-term nutrient intake is inadequate. Stunting is most prevalent in the 12-35 months age group, suggesting that weaning practices need to improve.

During 1992–2010 underweight, stunting and wasting prevalences declined from 12.3% to 5.8%, 26.4% to 13.8%, and 1.7% to 1.3% respectively, a reduction of nearly 53.5%, 49.6% and 23.5% over the past 19 year period in table 8.

The Third National Nutrition Survey conducted in 2004 assessed the prevalence of young child protein energy malnutrition in accordance with the NCHS/WHO growth reference (Physical Status: The Uses and Interpretation of Anthropometry: Report of a WHO Expert Committee (WHO Technical Report Series 854). World Health Organization, Geneva, 1995) and the WHO Child Growth Standard revised in 2006. The results of the current survey were compared to the findings of the third survey, and the changes in the prevalence of protein-energy malnutrition in young children are presented in Table 9.

However, it should be noted that the 2004 survey was conducted among children 6-59 months old, while the current survey assessed the nutritional status of 0-59 month-olds. Therefore, 0-5 month-olds were excluded from the comparison.

The positive changes and progress made in the nutrition of young children are related to the Mongolian government and other agencies have implemented several nutrition interventions in the past few years. For instance, the Law of Mongolia on Breast milk Substitute was enacted in 2005 for the purpose of supporting breastfeeding, promoting children's health and safe nutrition, and regulating production, import, sales and consumption of breast milk substitute. The law has provisions on exclusive breastfeeding until six months of age, followed by continued breastfeeding with complementary food until two years of age.

Actions and measures to reduce malnutrition have been coordinated with other projects and programs. To

Table 9. Trends in prevalence of protein-energy malnutrition in young children, by year

Age groups	Underweight (Z<-2SD)			Stunting (Z<-2SD)			Wasting (Z<-2SD)		
	2004		2010	2004		2010	2004		2010
	NHCS[1]	WHO[2]	WHO	NHCS	WHO	WHO	NHCS	WHO	WHO
6-11	4.0	2.5	3.5 /5.5[4]	8.4	11.0	6.0[3]/7.8[4]	1.0	1.0	1.9[3]/3.2[4]
12-23	5.7	3.3	4.5	17.8	20.1	18.7	0.7	0.7	1.7
24-35	9.8	7.0	5.9	20.5	27.5	20.8	0.8	0.8	0.0
36-47	6.0	4.4	4.3	24.6	30.3	15.1	0.8	0.8	0.5
48-59	7.4	6.6	2.3	24.8	27.0	14.8	0.0	0.0	4.0
Total	6.7	4.8	4.3[3]/4.7[4]	19.6	23.5	16.3[3]15.6[4]	0.6	0.6	1.4[3]/1.8[4]

[1] NCHS/WHO Reference – 1995, [2]WHO growth standard -2006 , [3] The results of calculated among 0-59 months old children [4]The results of calculated among 6-59 months old children

mention a few, the Integrated Management of Childhood Illness (IMCI) program supported by UNICEF, Convergent Basic Social Services (CBSS) program, World Version Health and Nutrition project and Asian Development Bank JFPR-9005 project on Improving nutrition children. Mongolia was one of the first countries in the Western Pacific Region to implement IMCI and to successfully take it to scale.

As is seen in many nutrition surveys, the prevalence of stunting has been decreasing albeit slowly. Considering that stunting prevalence has been stubbornly persisting due to deficiency in vitamins and micronutrients, especially zinc deficiency, there is a need to conduct in depth research into the reasons and factors of stunting and based on this research, identify a proper course of action to be taken. In addition to the strong relationship between birth weight and underweight and stunting suggest a major role of low birth weight in causing malnutrition in children less than 5 years of age. As other causes of malnutrition decline in Mongolia and as complementary feeding and breastfeeding practices improve, low birth weight may cause an increasingly large role in determining the nutritional status of young Mongolian children. Programs targeting underweight and stunting should address low birth weight prevention and compensatory nutritional support for those babies born with low birth weight.

CONCLUSION

The prevalence of malnutition in under-five children in Mongolia is reduced. Sustainable decrease in the prevalence of underweight among children indicates Government MDG to reduce underweight twice has been reached. The prevalence of nutrition deficiencies varies between different regions calling for implementation of interventions specific for local conditions and needs. The prevalence of under nutrition varies between different age groups, particularly relatively high in children under 3 years of age and current findings of the survey demonstrated the implementation of sustainable, effective measures specific for child's age are essential.

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