



MINISTRY OF HEALTH



NATIONAL CENTER  
FOR PUBLIC HEALTH



# NUTRITION STATUS OF THE POPULATION OF MONGOLIA

SIXTH NATIONAL NUTRITION SURVEY KEY INDICATORS REPORT

Ulaanbaatar, Mongolia

2024



## ACKNOWLEDGEMENTS

In accordance with Article 9.1.1 of the Mongolian “Law on Food”, a national nutrition survey shall be conducted every 5 years and the results should be reported to relevant government agencies and the public. Since 1992, the national nutrition surveys had been conducted continuously. In 2023, our center successfully organized the sixth national nutrition survey, “Nutrition Status of the Population of Mongolia” and we are pleased to announce its results.

With the technical and financial support of the United Nations Children’s Fund, the Ministry of Health and the National Center for Public Health had implemented the 6th national nutrition survey (NNS VI) to assess the current nutrition situation and identify future interventions to promote a healthy diet and improve the nutritional status of the Mongolian population. The NNS VI is large scale survey, that covered a total of 200 primary sampling units randomly selected from 112 soums in 21 provinces, 4 socioeconomic regions of Mongolia, 40 khoros in 8 districts of Ulaanbatar city.

The survey used an internationally standardized methodology to study the nutritional status of the population by selecting a sample population based on vulnerable groups, including children under five years old, pregnant women, and women of reproductive age. Additionally, national representative of secondary school children aged 6–18 years and men aged 15–49 years from the selected households were included in the survey to compare the results with previous nutrition surveys. A total of 14,833 individuals participated in the NNS VI, including 2,789 households with children under five years of age, 2,786 children under five, 4,864 secondary school students, 2,413 women of reproductive age, 2,796 pregnant women, and 1,950 men aged 15–49. This represents an increase of 542 households and 5,279 individuals compared to the previous NNS conducted in 2017.







We would like to express our appreciation to the Ministry of Health of Mongolia and the members of the Survey Steering Committee for providing regulatory management. We also extend our sincere gratitude to the district and provincial health departments, soum and family health centers, for their invaluable support in survey data collection at the local level.

Special gratitude is extended to the UNICEF team, namely officers Munkhjargal L., Khurelmaa D., and consultant Tsogtbayar Ch., for providing technical and financial support in organizing “The Nutrition Status of the Mongolian Population: VI National Nutrition Survey.” NCPH expresses our heartfelt gratitude to Dr. Jürgen Erhardt, Head of the “VitMin” Laboratory in Germany, and N. Naranbat, MD, PhD, Chairman of the Board of Directors of Gyals LLC, for their contributions to the laboratory examinations. Special thanks also go to Professor Abdul Sattar, FAO specialist for the professional and technical support in survey data analysis and validation. Finally, I would like to express my deepest gratitude to my colleagues at the NCPH for their dedication and participation in all stages of the survey.

I am confident that the scientific evidence provided by this survey will support further activities to reduce the risk of non-communicable diseases—one of the leading causes of morbidity and mortality in Mongolia. Enhancing nutrition and food security will strengthen the implementation of the Public Health Services Law, ultimately improving the nutritional status of Mongolians and enabling longer, healthier lives for all.

Best wishes for the continued success of public health efforts in Mongolia. Best wishes in the great work for public health in Mongolia.

DIRECTOR OF NATIONAL CENTER FOR PUBLIC HEALTH  
UNURSAIKHAN SURENJAV, PhD., Ass. Prof

	The Global Nutrition Target – 2025	Mongolian current situation – 2023
	Achieve a 40% reduction in the number of children under-5 who are stunted	Stunted children under 5 years old – 8.4%
	Achieve a 50% reduction of anaemia in women of reproductive age	Prevalence of anemia among women of reproductive age – 16.3%
	Achieve a 30% reduction in low birth weight	Low birth weight – 3.9%
	Ensure that there is no increase in childhood overweight	Prevalence of Overweight children under 5 years old - 11.7%
	Increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%	Prevalence of exclusive breastfeeding – 59.6%
	Reduce and maintain childhood wasting to less than 5%	Prevalence of Wasted children under 5 years old – 1.3%

## INTRODUCTION

The NNS V “Nutritional Status of the Population of Mongolia” was conducted six years ago, in 2016-2017, by the Department of Nutrition (currently known as Department of Nutrition and Food Safety) in cooperation with relevant organizations and departments. Based on the results and conclusions of this survey, improvements were made to the legal framework for enhancing the nutritional status of the population, fostering interdisciplinary cooperation, increasing the supply and consumption of healthy and nutritious food, and implementing multifaceted measures to intensify information dissemination, monitoring, and evaluation. These measures were carried out with the financial and technical support of the state and local budgets as well as international donor organizations. For instance, to support and protect breastfeeding, promote healthy eating, and prevent and control nutrition-related disorders, including micronutrient deficiencies specifically among young children and women, several laws were enacted: the “Law on Iodizing Salt and Preventing Iodine Deficiency” in 2013, the “Law on Fortified Food” in 2018, the “Law on Food for Infants and Young Children” in 2017, and the “Law on Food Production and Services of Secondary Schools” in 2019. Programs, procedures, instructions, and recommendations related to these laws have been implemented to achieve their objectives.

Therefore, to evaluate the results and effectiveness of policies, programs, procedures, and instructions implemented since 2016 in the field of improving the nutritional status of children and women; to study the effects of poverty and economic crises on the nutritional status of the population; and to analyze the correlation between household socio-economic status and food insecurity, we conducted the VI National Nutrition Survey, “Nutritional Status of the Population of Mongolia”.

## PURPOSE OF THE SURVEY

The main purpose of the VI National Nutrition Survey is to evaluate the current nutritional status of the population of Mongolia and determine necessary interventions and provide recommendations for further implementation.

## OBJECTIVES OF THE SURVEY

The survey conducted with the following objectives:

1. To assess water supply, sanitation, wealth index quintile, food insecurity and consumption of iodized salt in households with children under five years of age
2. To study the diet and nutritional status of children under 5 years old and the prevalence of nutrition-related disorders in relation to family characteristics and mother’s nutritional status,
3. To study the nutritional status of secondary school children aged 6-18, determine the prevalence of nutrition-related disorders, evaluate their knowledge, attitude and practice as well as assess their satisfaction with the “School Lunch” program,
4. To study the diet and nutritional status of pregnant women, evaluate the prevalence of nutrition-related disorders, and assess the use of micronutrient supplements,
5. To evaluate the diet of women of reproductive age, their knowledge of child feeding practices, the use of micronutrient supplements, and the prevalence of nutrition-related disorders.
6. To assess the diet and nutritional status of men aged 15-49 in households with children under the age of five and study the prevalence of nutrition-related disorders.

## THE SURVEY SAMPLE SIZE

A total of 2,800 households with children under five years of age were selected for the VI NNS “Nutrition Status of the Population,” of which 2,791 participated in the survey, resulting in a participation rate of 99.7%. The study used internationally standardized methodology to assess the nutritional status of children under five years of age, pregnant women, and women of reproductive age as representatives of the entire population, as these groups are particularly vulnerable to malnutrition. Moreover, to evaluate the nutritional status of adolescents, students from grades 1 to 12 were selected, and men aged 15–49 years were also studied as part of the representative sample.

Target population group	Sample size per region	The number of groups	Total sample size		Response rate %
			Planned	Participated	
Household with children under 5 years old	560	5	2800	2789	99.6
Children under 5 years old	560	5	2800	2786	99.5
Women of reproductive age	560	5	2789	2513	90.1
Men of 15-49 years old	560	5	2789	1950	69.6
Pregnant women	560	5	2800	2796	99.9
Secondary school children 6-18 years of age	2432	2	4864	4742	97.5

## SURVEY INDICATORS

Indicator	Target population					
	Household	Children under the age of 5	Women of reproductive age	Men 15-49 years of age	Pregnant women	Secondary school children 6-18 years of age
Food insecurity experience scale						
Wealth index quintile						
Consumption of iodized salt						
Water and sanitation						
Dietary patterns						
Micronutrient and mineral supplement use						
<b>Prevalence of nutrition-related disorders</b>						
Stunting						
Wasting /acute malnutrition						
Underweight						
Overweight						
Obese						

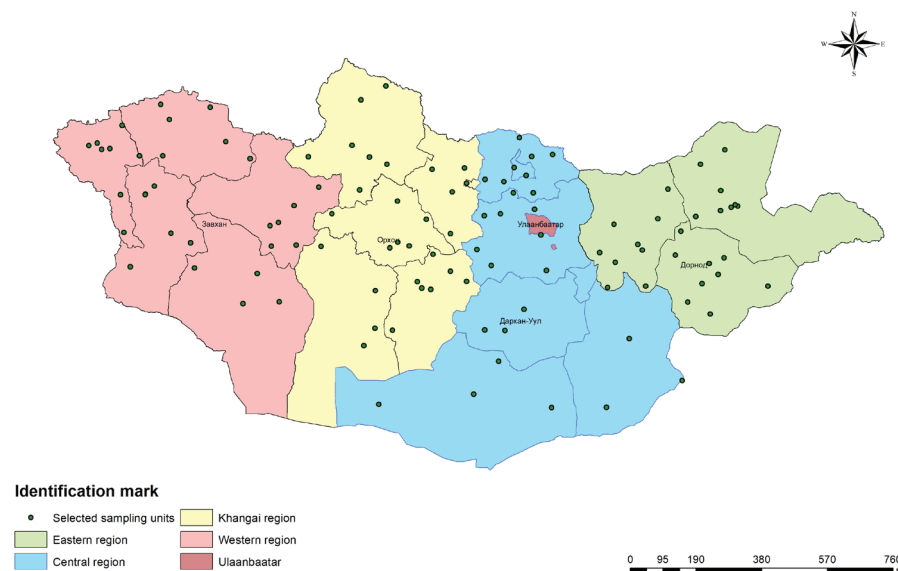
Micronutrient deficiency						
Rickets						
Anaemia						
Vitamin A deficiency						
Vitamin D deficiency						
Iron deficiency						
Iodine deficiency						

## SURVEY SAMPLING

The national survey “Nutrition Status of the Population of Mongolia” is organized every five years to assess the current nutritional state of the population and develop recommendations for interventions to improve nutritional status and promote healthy eating.

The VI National Nutrition Survey covered 112 soums in 21 provinces across Mongolia and 40 khoroos in 8 districts of Ulaanbaatar city. A total of 560 children under five years of age were randomly selected from each of the four socioeconomic regions and Ulaanbaatar city using the Probability Proportional to Size (PPS) methodology. Additionally, the diet and nutritional status of members aged 15–49 years from the selected households were evaluated. Secondary school students from grades 1 to 12 and pregnant women were also randomly selected for the survey (see Figures 1, 2).

**LOCATION OF SELECTED SAMPLING UNITS IN THE WESTERN, KHANGAI, CENTRAL AND EASTERN REGIONS OF MONGOLIA**



*Figure 1. Cluster locations shown by 4 socio-economic regions of Mongolia*

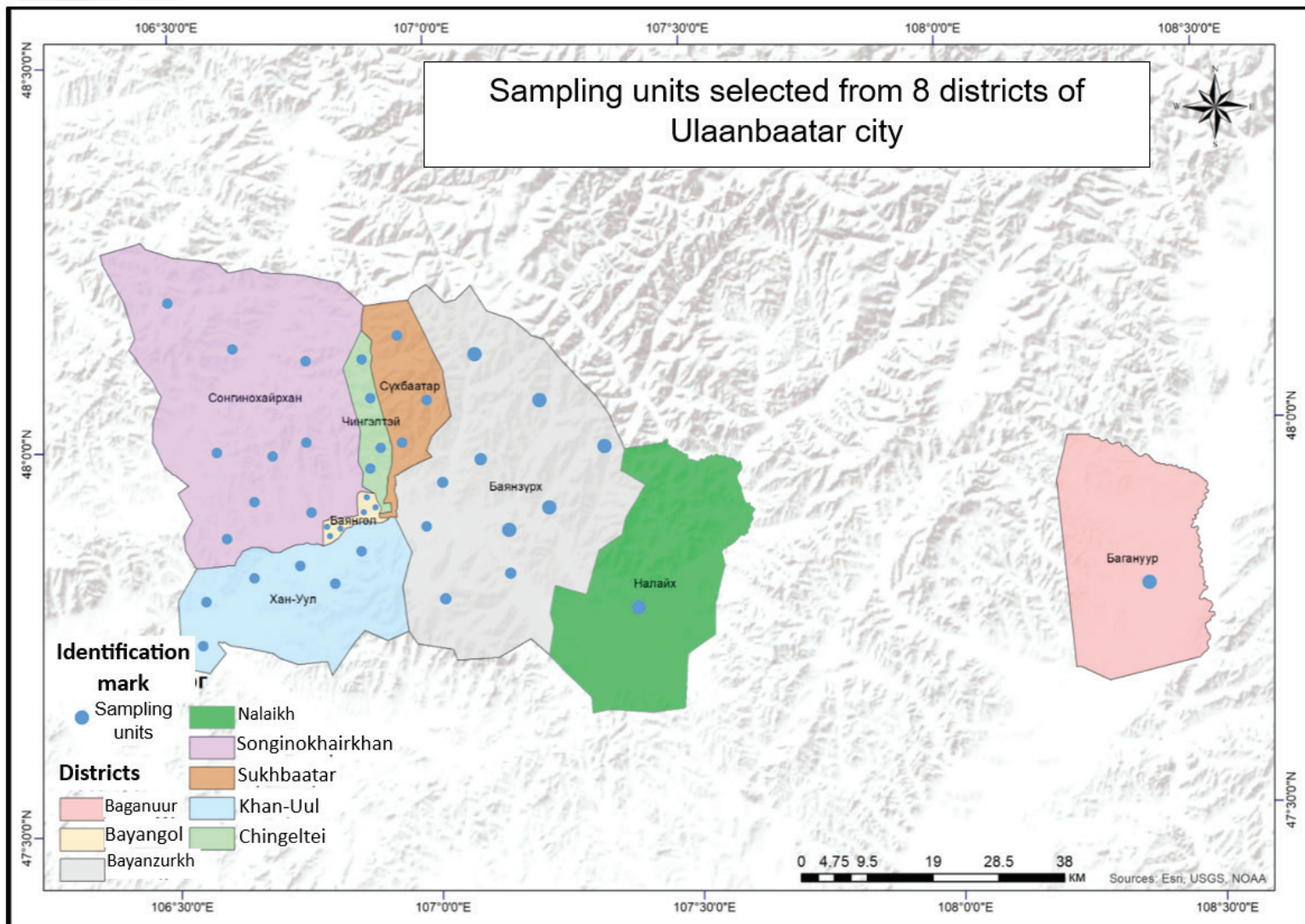


Figure 2. Cluster locations shown by 8 districts of Ulaanbaatar city

## SURVEY SAMPLING AND RESPONSE RATE

№	Indicators	Total	Regional				
			Western	Khangai	Central	Eastern	Ulaanbaatar
Target population and response rate, %							
<b>Household</b>							
1.	Sampled	2800	560	560	560	560	560
2.	Interviewed	2789	557	560	559	557	556
3.	Household response rate (%)	99.6	99.5	100.0	99.8	99.5	99.3
<b>Children under 5</b>							
1.	Eligible	2800	560	560	560	560	560
2.	Child questionnaires completed	2786	557	553	560	556	560
3.	Under 5's response rate (%)	99.5	99.5	98.8	100.0	99.5	100.0
<b>Mother 15-49 years</b>							
1.	Eligible	2789	557	560	559	557	556
2.	Interviewed	2513	516	483	524	489	501
3.	Mother's response rate (%)	90.1	92.6	86.3	93.7	87.8	90.1
<b>Men 15-49 years</b>							
1.	Eligible	2789	557	560	559	557	556
2.	Interviewed	1950	377	371	444	370	388
3.	Men's response rate (%)	69.9	67.7	66.3	79.4	66.4	69.8
<b>Students in grade 1 – 12</b>							
1.	Eligible	4864	960	960	960	960	1024
2.	Interviewed	4742	958	937	926	965	956
3.	Student's response rate (%)	97.5	99.8	97.6	96.5	100.5	93.4
<b>Pregnant women 15-49 years</b>							
1.	Eligible	2800	560	560	560	560	560
2.	Interviewed	2796	560	547	560	567	562
3.	Pregnant women's response rate (%)	99.9	100.0	97.7	100.0	101.3	100.4

## SAMPLE SIZE OF BIOCHEMICAL ANALYSIS, RESPONSE LEVEL - 1

Nº	Indicators	Total	Regional				
			Western	Khangai	Central	Eastern	Ulaanbaatar
<b>Children under 5 years, anaemia</b>							
1.	Eligible	2800	560	560	560	560	560
2.	Interviewed	2679	545	532	546	532	524
3.	Under 5's response rate (%)	96.6	97.3	95.0	97.5	95.0	93.5
<b>Children under 5 years, micronutrient</b>							
1.	Eligible	1400	280	280	280	280	280
2.	Interviewed	1364	277	261	277	275	274
3.	Under 5's response rate (%)	97.4	98.9	93.2	98.9	98.2	97.8
<b>Student in grade 1 – 12, anaemia</b>							
1.	Eligible	1216	240	240	240	240	252
2.	Interviewed	1213	242	229	238	271	233
3.	Student's response rate (%)	99.7	100.8	95.4	99.1	112.9	92.4
<b>Student in grade 1 – 12, micronutrient</b>							
1.	Eligible	608	120	120	120	120	128
2.	Interviewed	581	115	118	115	120	113
3.	Student's response rate (%)	95.5	95.8	98.3	95.8	100.0	88.3
<b>Students in grade 1 – 6, urinary iodine</b>							
1.	Eligible	2432	480	480	480	480	512
2.	Interviewed	2232	465	445	459	416	447
3.	Student's response rate (%)	91.8	96.9	92.9	95.6	86.6	87.3
<b>Pregnant women, anaemia</b>							
1.	Eligible	2800	560	560	560	560	560
2.	Interviewed	2786	559	547	558	566	556
3.	Women's response rate (%)	99.5	99.8	97.7	99.6	101.7	99.3

## SAMPLE SIZE OF BIOCHEMICAL ANALYSIS, RESPONSE LEVEL - 2

№	Indicators	Total	Regional				
			Western	Khangai	Central	Eastern	Ulaanbaatar
<b>Pregnant women, micronutrient</b>							
1.	Planned	1400	280	280	280	280	280
2.	Interviewed	1384	276	277	278	282	271
3.	Women's response rate (%)	98.8	98.6	98.9	99.3	100.7	96.8
<b>Pregnant women, urinary iodine</b>							
1.	Planned	2800	560	560	560	560	560
2.	Interviewed	2763	560	536	559	560	548
3.	Women's response rate (%)	98.7	100.0	95.7	99.8	100.0	97.8
<b>Mothers/caretakers 15-49 years, anaemia</b>							
1.	Planned	2789	557	560	559	557	556
2.	Interviewed	2488	512	478	521	483	494
3.	Mother's response rate (%)	89.2	91.9	85.3	93.2	86.7	88.8
<b>Mothers/caretakers 15-49 years, micronutrient</b>							
1.	Planned	1400	280	280	280	280	280
2.	Interviewed	1331	275	252	266	268	270
3.	Mother's response rate (%)	95.1	98.2	90.0	95.0	95.7	96.4
<b>Men 15-49 years, anaemia</b>							
1.	Planned	400	80	80	80	80	80
2.	Interviewed	399	82	81	65	81	90
3.	Men's response rate (%)	99.7	102.5	101.2	85.0	101.2	112.5

## HOUSEHOLD WITH CHILDREN UNDER 5 YEARS OF AGE

№	Indicators	Description	National average	Area		Regions				
				Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
<b>1</b>	<b>Water and sanitation</b>									
1.1	Use of improved drinking water source	Percentage of households using an improved source of drinking water	96.0	99.8	88.7	93.1	88.1	99.3	88.2	99.8
1.2	Improved drinking water source on property	Percentage of households with access to an improved source of drinking water on their property	42.2	52.5	19.7	33.5	16.3	35.6	27.7	58.7
1.3	Use of improved sanitation facility	Percentage of households using an improved sanitation facility	45.2	59.8	12.8	14.0	17.6	32.1	28.1	70.0
1.4	Open defecation	Percentage of households practicing open defecation	1.8	0.2	5.4	3.0	4.5	1.4	5.9	0.0
1.5	Use of improved drinking water source and sanitation facility	Percentage of households using an improved source of drinking water and improved sanitation facility	45.0	59.8	12.4	13.9	17.4	32.1	26.6	70.3
<b>2</b>	<b>Food insecurity status</b>									
2.1	Moderate and severe food insecurity	Percentage of households with moderate and severe food insecurity as measured by the Household Food Insecurity Experience Scale (FIES)	21.6	23.9	16.6	24.8	19.7	19.1	21.5	22.4
2.2	Moderate food insecurity	Percentage of households with moderate food insecurity as measured by the Household Food Insecurity Experience Scale (FIES)	18.9	21.3	13.7	23.1	17.2	15.1	19.2	19.7
2.3	Severe food insecurity	Percentage of households with food severe insecurity as measured by the Household Food Insecurity Experience Scale (FIES)	2.7	2.6	2.8	1.6	2.5	4.0	2.3	2.7
<b>3</b>	<b>Iodized salt coverage</b>									
3.1	Iodized salt consumption	Percentage of households consuming adequately iodized salt ( $\geq 15$ mg/kg of iodine)	47.4	46.9	48.3	39.6	42.2	68.3	50.4	43.9
3.2	Iodine content of the household salt	Median iodine concentration of iodized salt (mg/kg)	14.6	14.3	15.3	12.9	13.4	20.5	15.5	13.3

## CHILDREN UNDER 5 YEARS OF AGE

Indicator	Description	National average	Area		Regions					
			Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar	
<b>1.</b>	<b>Nutrition status</b>									
1.1	Low birth weight prevalence	Percentage of most recent live births in the last 2 years weighing < 2,500 grams at birth	3.9	3.7	4.2	7.2	3.0	3.5	5.3	3.2
1.2	High birth weight prevalence	Percentage of most recent live births in the last 2 years weighing ≥ 4,000 grams at birth	11.8	12.0	11.4	8.7	9.9	12.9	16.2	12.3
1.3	Underweight prevalence	Percentage of children 0-59 months < -2 SD of the median weight-for-age of the WHO standard	1.5	1.4	1.7	2.8	1.7	1.4	1.3	1.1
1.4	Stunting prevalence	Percentage of children 0-59 months < -2 SD of the median height-for-age of the WHO standard	8.4	7.2	11.2	11.2	11.9	10.0	7.4	6.1
1.5	Wasting prevalence	Percentage of children 0-59 months < -2 SD of the median weight-for-height of the WHO standard	1.3	1.1	2.0	2.9	1.0	1.9	0.9	0.9
1.6	Overweight prevalence	Percentage of children 0-59 months > +2 SD of the median weight-for-height of the WHO standard	11.3	10.8	12.5	9.6	13.5	15.8	8.3	10.2
<b>2.</b>	<b>Unhealthy food consumption</b>									
2.1	Sweet beverage consumption	Percentage of children 6-23 months who consumed sweet beverage during the previous day	36.7	37.5	34.7	20.6	25.7	46.4	46.7	40.7
2.2	Zero vegetable or fruit consumption	Percentage of children 6-23 months of age who did not consume any vegetables or fruits during the previous day	31.8	27.5	42.2	43.0	44.1	29.8	34.9	24.4
2.3	Unhealthy food consumption	Percentage of children 6-23 months who consumed sweet beverage during the previous day	42.2	40.2	47.1	43.7	35.5	57.2	38.7	39.8
<b>3.</b>	<b>Anemia and iron status</b>									
3.1	Anemia prevalence	Percentage of children 0-59 months with hemoglobin < 110 g/l	21.3	20.0	24.3	24.3	24.1	25.0	24.2	17.9
3.2	Iron deficiency (serum ferritin) prevalence	Percentage of children 6-59 months with serum ferritin < 12 µg/l	14.1	14.2	14.0	23.0	15.2	12.8	12.0	12.0

Indicator		Description	National average	Area		Regions				
				Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
3.3	Iron deficiency (soluble transferrin receptor) prevalence	Percentage of children 6-59 months with sTfR > 8.3 mg/l	10.8	10.4	11.9	18.2	13.0	8.7	10.0	8.8
3.4	Iron deficiency anaemia prevalence	Percentage of children 6-59 months with hemoglobin < 110 g/l and ferritin < 12 µg/l	5.7	5.6	5.9	10.0	7.2	6.8	4.3	3.8
3.5	Low body iron store	Total body iron store < 0.0 mg/kg	13.1	12.9	13.5	21.8	12.7	11.9	10.9	11.5
<b>4.</b>	<b>Vitamin A and D status</b>									
4.1	Prevalence of vitamin A deficiency	Percentage of children 6-59 months with serum retinol < 0.70 µmol/l	7.1	7.8	5.4	8.8	4.7	5.4	6.4	8.0
4.2	Prevalence of vitamin A insufficiency	Percentage of children 6-59 months with serum retinol ≥ 0.70-1.05 µmol/l	57.9	52.3	59.6	58.0	64.2	58.3	55.9	55.7
4.3	Prevalence of low level of vitamin D	Percentage of children 6-59 months with 25-hydroxyvitamin D < 30 ng/ml	79.5	75.5	88.6	89.7	85.8	87.3	91.8	70.2
4.4	Prevalence of	Percentage of children 6-59 months with 25-hydroxyvitamin D < 20 ng/ml	48.5	45.4	55.3	59.8	51.7	51.9	66.3	40.5
4.5	vitamin D deficiency	Percentage of children 6-59 months with 25-hydroxyvitamin D < 12 ng/ml	18.9	18.6	19.5	19.7	20.4	22.2	19.9	16.9
4.6	Prevalence of vitamin D severe deficiency	Percentage of children 6-59 months with 25-hydroxyvitamin D 12.0–19.9 ng/ml	29.6	26.8	35.9	40.1	31.3	29.7	46.4	23.6
4.7	Prevalence of vitamin D moderate deficiency	Percentage of children 6-59 months with 25-hydroxyvitamin D 20-29 ng/ml	31.0	30.1	33.3	29.9	34.1	35.4	25.5	29.7
4.8	Prevalence of vitamin D insufficiency	Percentage of children 6-59 months with C-reactive protein > 5 mg/l or α1-acid-glycoprotein >1 g/l	34.0	34.5	32.7	39.9	31.6	34.9	35.3	32.6
<b>5.</b>	<b>Prevalence of inflammation</b>									
5.1	Multiple Micronutrient Powder consumption	Percentage of children 6-59 months who consumed Multiple Micronutrient Powders during the past year	7.9	6.4	11.2	9.9	16.5	6.3	3.8	5.4
5.2	Iron supplementation	Percentage of children 0-59 months who received iron supplementation during the past year	3.7	3.6	4.0	7.2	4.3	1.7	3.4	3.3

Indicator		Description	National average	Area		Regions				
				Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
5.3	Vitamin A supplementation	Percentage of children 6-59 months who received vitamin A supplementation during the past year	61.2	57.1	70.5	69.3	71.7	63.7	65.8	53.9
5.4	Vitamin D supplementation	Percentage of children 0-59 months who received vitamin D supplementation during the past year	79.5	83.3	70.8	73.0	78.5	67.5	75.3	85.8
<b>6.</b>	<b>Infant and young child feeding practices</b>									
6.1	Child ever breastfed	Percentage of women with a live birth in the last 2 years who breastfed their last live-born child at any time	95.9	95.3	97.3	94.6	99.0	98.6	99.0	93.9
6.2	Early initiation of breastfeeding	Percentage of women with a live birth in the last 2 years who breastfed their last live-born child within 1 hour of birth	87.4	85.6	91.8	89.7	90.2	91.2	90.6	84.0
6.3	Exclusive breastfeeding	Percentage of infants < 6 months who were exclusively breastfed	59.6	58.6	62.7	48.1	60.5	68.1	72.9	58.3
6.4	Exclusive breastfeeding for the first 2 days after birth	Percentage of children 0-23 months who fed exclusively with breast milk for the first 2 days after birth	75.8	73.2	82.1	82.6	82.6	80.4	81.8	69.0
6.5	Age-appropriate breastfeeding	Percentage of children 0-23 months who were appropriately fed during the previous day	66.5	64.8	70.7	72.5	68.8	68.6	68.6	63.0
6.6	Continued breastfeeding	Percentage of children 12-23 months who received breast milk during the previous day	64.1	62.8	66.9	77.7	64.1	60.0	60.4	61.9
6.7	Bottle feeding	Percentage of children 0-23 months who were fed with a bottle during the previous day	33.4	37.5	23.2	29.3	21.2	25.6	32.2	41.3
6.8	Introduction of solid, semi-solid, or soft foods	Percentage of infants 6-8 months who received solid, semi-solid, or soft foods during the previous day	90.6	89.3	95.8	86.0	96.6	65.2	90.7	89.1
6.9	Milk feeding frequency for non-breastfed children	Percentage of non-breastfed children 6-23 months who received at least 2 milk feedings during the previous day	60.2	63.0	52.2	58.6	48.0	55.4	52.1	66.6

Indicator		Description	National average	Area		Regions				
				Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
6.10	Minimum dietary diversity	Percentage of children 6-23 months who received foods from at least 4 food groups during the previous day	49.4	52.8	41.2	38.4	39.1	52.5	47.8	55.5
6.11	Minimum meal frequency	Percentage of children 6-23 months who received solid, semi-solid, or soft foods the minimum number of times during the previous day	51.9	50.8	54.6	46.1	60.5	58.8	52.4	48.4
6.12	Minimum acceptable diet	Percentage of children 6-23 months who had minimum dietary diversity and minimum meal frequency during the previous day	30.4	31.7	27.1	17.3	34.5	34.2	29.3	31.8
6.13	Egg and/or flesh food consumption	Percentage of children 6-23 months who consumed egg and/or flesh food during the previous day	89.3	86.8	95.2	87.8	96.5	95.7	92.9	84.6

## SCHOOL CHILDREN 6 – 18 YEARS OF AGE

№	Indicator	Description	National average	Sex		Areas		Regions				
				Boys	Girls	Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
<b>1.</b>	<b>Nutrition status</b>											
1.1	Stunting prevalence	Percentage of children 6-18 years < -2 SD of the median height-for-age of the WHO growth reference for 5 – 19 years	2.6	2.3	2.8	2.1	3.5	6.0	2.3	1.5	2.6	2.1
1.2	Thinness prevalence	Percentage of children 6-18 years < -2 SD of the median BMI-for-age of the WHO growth reference for 6 – 19 years	2.3	2.8	1.9	2.8	1.5	2.0	1.2	2.2	2.2	2.9
1.3	Overweight prevalence	Percentage of children 6-18 years > +1 SD of the median BMI-for-age of the WHO growth reference for 6 – 19 years	19.6	21.6	17.5	21.6	15.4	12.4	15.3	19.1	19.6	23.0
1.4	Obesity prevalence	Percentage of children 6-18 years > +2 SD of the median BMI-for-age of the WHO growth reference for 6 – 19 years	6.2	8.4	4.0	7.3	3.9	3.2	4.0	5.6	4.8	8.0
<b>2.</b>	<b>Micronutrient status</b>											
2.1	Prevalence of low level of vitamin D	Percentage of children 6-18 years with 25-hydroxy vitamin D < 30 ng/ml	89.1	88.1	90.0	85.8	95.6	94.3	97.1	93.2	98.5	82.6
2.2	Vitamin D deficiency prevalence	Percentage of children 6-18 years with 25-hydroxy vitamin D < 20 ng/ml	67.3	60.5	74.1	64.0	73.9	79.1	74.2	69.4	74.4	60.2
2.3	Severe vitamin D deficiency prevalence	Percentage of children 6-18 years with 25-hydroxy vitamin D < 12 ng/ml	29.1	24.8	33.3	31.4	24.5	31.5	22.3	32.0	32.1	29.6
2.4	Moderate vitamin D deficiency prevalence	Percentage of children 6-18 years with 25-hydroxy vitamin D 12.0– 19.9 ng/ml	38.3	35.6	40.9	32.6	49.6	47.5	51.9	37.4	43.1	30.9
2.5	Vitamin D insufficiency prevalence	Percentage of children 6-18 years with 25-hydroxyvitamin D 20-29 ng/ml	21.8	27.7	15.9	21.8	21.7	15.2	22.9	23.8	24.1	22.3

№	Indicator	Description	National average	Sex		Areas		Regions				
				Boys	Girls	Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
2.6	Anaemia prevalence	Percentage of children 6-18 years with haemoglobin < 120 g/l	7.6	5.1	10.1	7.2	8.4	7.6	10.3	5.9	7.3	7.3
2.7	Urinary iodine concentration	Median urinary iodine excretion of school children 6–11 years of age (µg/l)	93.6	95.0	92.8	96.2	88.3	74.2	88.3	107.5	102.4	95.0
<b>3.</b>	<b>Awareness on diet and nutrition</b>											
3.1	Awareness of iodine deficiency	Percentage of children 6-11 years who were aware about iodine deficiency	7.2	6.7	7.8	6.8	8.0	6.3	11.2	4.0	7.5	7.0
3.2		Percentage of children 12-18 years who were aware about iodine deficiency	18.2	16.5	19.9	18.4	17.9	21.3	20.8	11.2	14.8	19.0
3.3	Awareness of iodized salt	Percentage of children 6-11 years who were aware about iodized salt	18.9	19.9	17.8	17.1	22.4	28.0	30.0	10.2	12.6	16.4
3.4	Awareness of malnutrition	Percentage of children 12-18 years who were aware about malnutrition	53.7	49.8	57.5	54.7	51.8	50.4	53.5	49.5	52.5	56.1
<b>4.</b>	<b>Dietary practice of school children 6 – 11 ears of age</b>											
4.1.1	Consumption of fruits	Percentage of children 6-11 years who consumed fruits ≥5 times per week	12.6	16.1	8.9	14.9	7.9	9.2	7.6	8.7	7.1	17.0
4.1.2		Percentage of children 12-18 years who consumed fruits ≥5 times per week	10.8	10.0	11.6	12.7	6.9	5.7	7.5	6.7	8.7	14.8
4.2.1	Consumption of vegetables	Percentage of children 6-11 years who consumed vegetables ≥ 5 times per week	53.5	54.0	53.0	54.6	51.4	57.5	49.2	55.1	43.3	54.9
4.2.2		Percentage of children 12-18 years who consumed vegetables ≥ 5 times per week	65.0	65.9	64.1	68.2	58.4	57.7	54.9	66.1	61.3	70.7
4.3.1	Consumption of dairy	Percentage of children 6-11 years who consumed dairy ≥ 5 times per week	25.1	25.2	25.0	24.5	26.3	27.2	30.7	21.8	22.8	24
4.3.2		Percentage of children 12-18 years who consumed dairy ≥5 times per week	26.5	27.8	25.2	24.8	29.9	27.5	28.6	24.8	24.3	26.1

№	Indicator	Description	National average	Sex		Areas		Regions				
				Boys	Girls	Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
4.4.1	Consumption of sugar-sweetened beverages	Percentage of children 6-11 years who consumed sugar-sweetened beverages > 3 times per week	11.7	13.4	9.7	11.6	11.6	12.0	10.0	12.0	16.6	11.3
4.4.2		Percentage of children 12-18 years who consumed sugar-sweetened beverages > 2 times per week	42.4	45.2	39.7	46.6	34.0	25.9	38.1	43.0	43.4	48.0
4.5.1	Consumption of deep-fried foods	Percentage of children 6-11 years who consumed fried foods > 2 times per week	20.4	21.4	19.4	18.1	25.2	41.0	18.4	15.5	18.8	17.9
4.5.2		Percentage of children 12-18 years who consumed fried foods > 2 times per week	30.8	31.7	29.9	32.4	27.6	30.0	22.9	30.8	32.8	33.5
4.6.1	Consumption of sweet foods	Percentage of children 6-11 years who consumed sweet foods > 2 times per week	17.3	18.2	16.3	17.7	16.5	20.5	13.2	16.2	18.1	18.2
4.6.2		Percentage of children 12-18 years who consumed sweet foods > 2 times per week	44.9	40.4	49.2	47.8	39.0	39.0	41.8	42.4	41.1	49.0
4.7.1	Availability of water at school	Percentage of children 6-11 years who drink water or any liquids every day at school	37.3	35.6	39.1	38.2	35.5	32.5	38.5	33.1	34.4	39.7
4.7.2		Percentage of children 12-18 years who drink water or any liquids every day at school	29.6	28.4	30.9	32.6	23.6	26.4	27.7	29.2	24.7	32.0

## NON-PREGNANT REPRODUCTIVE AGE WOMEN (MOTHERS)

№	Indicator	Description	National average	Area		Region				
				Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
<b>1.</b>	<b>Nutrition status</b>									
1.1	Underweight prevalence	Percentage of mothers with BMI < 18.5 kg/m <sup>2</sup>	3.4	3.5	2.9	2.9	2.9	4.7	6.3	2.9
1.2	Overweight prevalence	Percentage of mothers with BMI ≥ 25.0 kg/m <sup>2</sup>	53.0	52.8	53.6	49.2	52.8	59.2	55.9	51.8
1.3	Obesity prevalence	Percentage of mothers with BMI ≥ 30.0 kg/m <sup>2</sup>	18.0	17.8	18.5	13.1	23.2	22.3	22.3	15.6
1.4	Short stature prevalence	Percentage of non-pregnant women with height < 145 cm	0.9	0.9	0.9	1.1	1.3	0.2	1.9	0.7
1.5	Short stature prevalence	Percentage of non-pregnant women with height < 150 cm	5.1	4.7	6.1	6.0	4.5	5.3	11.1	4.1
<b>2.</b>	<b>Micronutrient status</b>									
2.1	Anaemia prevalence	Percentage of non-pregnant women with hemoglobin < 120 g/l	16.3	15.7	17.8	15.5	17.8	18.7	21.9	14.6
2.2	Iron deficiency (serum ferritin) prevalence	Percentage of non-pregnant women with serum ferritin < 15 µg/l	15.2	15.5	14.4	15.3	14.3	15.7	9.0	16.1
2.3	Iron deficiency (soluble transferrin receptor) prevalence	Percentage of non-pregnant women with sTfR > 8.3 mg/l	7.5	7.3	7.9	8.5	8.0	6.6	4.9	7.6
2.4	Low body iron store	Total body iron store < 0.0 mg/kg	9.2	9.2	9.4	10.7	8.7	10.0	6.5	9.2
2.5	Iron deficiency anaemia prevalence	Percentage of non-pregnant women with hemoglobin < 110 g/l and ferritin < 15 µg/l	5.6	5.8	5.4	7.1	5.2	6.6	2.8	5.6
2.6	Vitamin A deficiency prevalence	Percentage of non-pregnant women with serum retinol < 0.70 µmol/l	1.3	1.7	0.5	1.5	1.7	0.3	0.4	1.6
2.7	Vitamin A insufficiency prevalence	Percentage of non-pregnant women with serum retinol ≥ 0.70-1.05 µmol/l	17.2	17.4	16.8	15.8	14.9	17.4	18.2	18.2
2.8	Low level of vitamin D	Percentage of non-pregnant women with 25-hydroxyvitamin D < 30 ng/ml	90.2	87.2	97.0	97.0	93.9	94.5	93.6	85.3
2.9	Vitamin D deficiency prevalence	Percentage of non-pregnant women with 25-hydroxyvitamin D < 20 ng/ml	70.6	68.1	76.3	79.9	76.0	75.7	77.0	63.9
2.10	Vitamin D severe deficiency prevalence	Percentage of non-pregnant women with 25-hydroxyvitamin D < 12 ng/ml	35.5	33.2	39.4	35.3	43.7	41.4	38.7	30.4
2.11	Vitamin D moderate deficiency prevalence	Percentage of non-pregnant women with 25-hydroxyvitamin D 12.0–19.9 ng/ml	35.1	33.2	39.4	44.6	32.3	34.3	38.3	33.5

№	Indicator	Description	National average	Area		Region				
				Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
2.12	Vitamin D insufficiency prevalence	Percentage of non-pregnant women with 25-hydroxyvitamin D 20-29 ng/ml	19.6	19.1	20.6	17.2	17.8	18.8	16.6	21.4
2.13	Inflammation prevalence	Percentage of non-pregnant women with C-reactive protein > 5 mg/l or $\alpha$ 1-acid-glycoprotein >1 g/l	19.8	19.3	21.0	16.2	21.4	20.0	22.3	19.8
<b>3.</b>	<b>Diet quality</b>									
3.1	Minimum dietary diversity	Percentage of non-pregnant women who consumed foods from at least 5 food groups during the previous day	68.1	73.1	55.7	54.2	51.6	58.3	68.9	79.8
3.2	All – 5	Percentage of non-pregnant women who consumed all 5 recommended food groups (starchy; animal source food; vegetables; fruits, pulse, nut or seeds)	14.3	17.5	6.4	6.2	7.5	7.1	10.0	21.2
3.3	Sweet beverage consumption	Percentage of non-pregnant women who consumed sweet tea, coffee, cocoa, fruit juice, fruit flavored drinks, and soft drinks	67.7	73.5	53.4	45.8	58.9	65.8	61.7	77.5
3.4	Zero vegetable or fruit consumption	Percentage of non-pregnant women who did not consume vegetable or fruit in the previous day	15.1	10.9	25.7	28.8	22.8	22.2	15.4	7.1
<b>4.</b>	<b>Micronutrient supplementation</b>									
4.1	Iron, iron and folic acid supplementation	Percentage of non-pregnant women who consumed iron supplements during pregnancy of the selected child	75.1	71.4	83.7	80.3	86.4	87.4	77.3	64.6
4.2	Folic acid supplementation	Percentage of non-pregnant women who consumed folic acid supplements during pregnancy of the selected child	60.4	59.5	62.6	57.4	59.5	69.4	60.3	58.8
4.3	Multiple micronutrient supplementation	Percentage of non-pregnant women who consumed multiple micronutrient supplements during pregnancy of the selected child	7.8	6.8	10.1	18.0	10.3	1.9	3.1	6.8
<b>5.</b>	<b>Antenatal care attendance</b>									
5.1	Antenatal care (ANC) attendance	Percentage of non-pregnant women who attended ANC during their last current pregnancy	99.4	99.3	99.7	99.8	99.8	99.8	99.5	99.1
5.2	ANC attendance	Percentage of mother's who attended ANC during the first trimester of their last pregnancy	86.1	88.7	79.7	75.6	87.9	79.3	82.2	90.6
5.3	ANC visits	Mean number of antenatal care visits	7.5	7.7	6.9	6.6	7.2	7.3	6.6	7.9

# PREGNANT WOMAN

№	Indicator	Description	National average	Area		Region				
				Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
<b>1.</b>	<b>Nutrition status</b>									
1.1	Low mid-upper arm circumference (MUAC) prevalence	Percentage of pregnant women with mid-upper arm circumference (MUAC) < 22.5 cm	1.5	1.3	1.9	1.4	1.1	2.6	1.9	1.2
1.2	Severe short stature prevalence	Percentage of pregnant women with height < 145 cm	0.8	0.6	1.3	1.4	1.9	0.7	1.5	0.2
1.3	Short stature prevalence	Percentage of pregnant women with height < 150 cm	3.5	3.3	3.8	5.1	3.9	2.3	4.1	1.7
<b>2.</b>	<b>Micronutrient status</b>									
2.1	Anaemia prevalence	Percentage of pregnant women with hemoglobin < 110 g/l	22.3	22.6	21.6	19.3	20.8	25.5	24.1	22.5
2.2	Iron deficiency anaemia prevalence	Percentage of pregnant women with hemoglobin < 110 g/l and ferritin < 15 µg/l	13.6	13.4	13.9	13.6	13.8	17.0	13.2	12.4
2.3	Iron deficiency (serum ferritin) prevalence	Percentage of pregnant women with serum ferritin < 15 µg/l	39.8	41.0	37.1	41.9	40.2	41.0	41.5	38.3
2.4	Iron deficiency (soluble transferrin receptor) prevalence	Percentage of pregnant women with sTfR > 8.3 mg/l	9.0	9.6	7.7	9.4	8.4	5.0	6.4	10.7
2.5	Low body iron store	Percentage of pregnant women with body iron store < 0.0 µg/kg	19.5	20.0	18.4	24.5	19.8	19.0	20.8	17.7
2.6	Vitamin A deficiency prevalence	Percentage of pregnant women with serum retinol < 0.70 µmol/l	0.4	0.5	0.2	0.4	0.4	0.7	0.3	0.4
2.7	Vitamin A insufficiency prevalence	Percentage of pregnant women with serum retinol ≥ 0.70-1.05 µmol/l	15.8	16.6	14.3	19.1	11.4	11.6	20.1	17.2
2.8	Low level of vitamin D	Percentage of pregnant women with 25-hydroxyvitamin D < 30 ng/ml	92.4	90.1	97.4	98.5	97.6	94.5	95.7	87.4
2.9	Vitamin D deficiency prevalence	Percentage of pregnant women with 25-hydroxyvitamin D < 20 ng/ml	76.6	72.5	85.2	87.4	84.8	79.2	87.0	67.6
2.10	Vitamin D severe deficiency prevalence	Percentage of pregnant women with 25-hydroxyvitamin D < 12 ng/ml	52.2	50.2	56.5	50.6	65.8	53.3	63.8	45.3
2.11	Vitamin D moderate deficiency prevalence	Percentage of pregnant women with 25-hydroxyvitamin D 12.0–19.9 ng/ml	24.4	22.3	28.7	36.8	19.0	25.9	23.2	22.3

№	Indicator	Description	National average	Area		Region				
				Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
2.12	Vitamin D insufficiency prevalence	Percentage of pregnant women with 25-hydroxyvitamin D 20-29 ng/ml	15.9	17.6	12.3	11.2	12.9	15.4	8.6	19.8
2.13	Urinary iodine concentration	Median urinary iodine excretion (µg/l)	76.4	75.8	71.8	71.1	61.8	90.9	86.2	75.1
2.14	Inflammation prevalence	Percentage of pregnant women with C-reactive protein > 5 mg/l and/or α1-acid-glycoprotein >1 g/l	36.0	36.0	35.9	30.6	32.3	37.7	39.2	38.0
<b>3.</b>	<b>Diet quality</b>									
3.1	Minimum dietary diversity	Percentage of pregnant women who consumed foods from at least 5 food groups during the previous day	71.1	77.6	57.3	64.9	53.7	70.0	67.5	80.7
3.2	All – 5	Percentage of pregnant women who consumed all 5 recommended food groups (starchy; animal source food; vegetables; fruits, pulse, nut or seeds)	15.3	18.7	8.0	11.9	7.7	13.3	10.8	20.5
3.3	Sweet beverages	Percentage of pregnant women who consumed sweet tea, coffee, cocoa, fruit juice, fruit flavoured drinks, and soft drinks	65.4	70.7	53.9	55.3	51.5	61.0	66.1	75.0
3.4	Zero vegetable or fruit consumption	Percentage of pregnant women who did not consume vegetable or fruit in the previous day	10.9	6.4	20.4	16.6	21.3	10.1	15.1	4.7
<b>4.</b>	<b>Micronutrient supplementation</b>									
4.1	Iron, iron and folic acid supplementation	Percentage of pregnant women who consumed iron supplements during the current pregnancy	53.6	58.5	42.9	40.9	36.3	50.0	40.1	67.5
4.2	Folic acid supplementation	Percentage of pregnant women who consumed folic acid supplements during the current pregnancy	50.9	49.8	53.1	65.2	60.9	39.0	44.3	46.0
4.3	Multiple micronutrient supplementation	Percentage of pregnant women who consumed multiple micronutrient supplements during the current pregnancy	11.4	10.7	13.0	18.6	13.5	3.3	3.9	12.2

№	Indicator	Description	National average	Area		Region				
				Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
<b>5.</b>	<b>Antenatal care attendance</b>									
5.1	Antenatal care (ANC) attendance	Percentage of pregnant women who attended ANC during their current pregnancy	98.4	98.3	98.6	99.6	98.7	98.6	97.9	97.9
5.2	ANC visits	Mean number of antenatal care visits	4.1	4.2	3.8	3.4	3.9	3.8	3.8	4.4
<b>6.</b>	<b>Awareness on iodine deficiency</b>									
6.1	Awareness of iodine deficiency	Percentage of pregnant women who were aware about iodine deficiency	32.4	33.9	29.1	28.9	33.4	30.3	25.8	34.8
6.2	Awareness of iodized salt	Percentage of pregnant women who were aware about iodized salt	74.8	76.0	72.0	69.6	77.3	67.9	69.6	78.4

## MEN 15 – 49 YEARS OF AGE

№	Indicator	Description	National average	Area		Region				
				Urban	Rural	Western	Khangai	Central	Eastern	Ulaanbaatar
<b>1.</b>	<b>Nutrition status</b>									
1.1	Underweight prevalence	Percentage of men with BMI < 18.5 kg/m <sup>2</sup>	0.7	0.9	0.3	0.3	1.1	0.2	1.1	0.8
1.2	Overweight prevalence	Percentage of men with BMI ≥ 25.0 kg/m <sup>2</sup>	57.4	58.3	55.6	55.1	54.7	54.5	54.6	60.5
1.3	Obesity prevalence	Percentage of men with BMI ≥ 30.0 kg/m <sup>2</sup>	17.0	16.7	17.5	18.6	17.5	11.9	18.1	17.8
<b>2.</b>	<b>Anemia</b>									
2.1	Anaemia	Percentage of men with haemoglobin < 130 g/l	7.2	8.1	5.2	3.7	8.6	4.6	4.9	8.9
<b>3.</b>	<b>Diet quality</b>									
3.1	Minimum dietary diversity	Percentage of men who consumed foods from at least 5 food groups during the previous day	59.8	68.1	42.8	39.8	43.1	60.6	55.1	72.4
3.2	All – 5	Percentage of men who consumed all 5 recommended food groups (starchy; animal source food; vegetables; fruits, pulse, nut or seeds)	9.5	11.9	4.5	5.3	4.9	6.1	6.2	14.2
3.3	Sweet beverages consumption	Percentage of men who consumed sweet tea, coffee, cocoa, fruit juice, fruit flavoured drinks, and soft drinks	70.7	77.6	56.6	52.3	58.2	67.3	71.9	81.7
3.4	Zero vegetable or fruit consumption	Percentage of men who did not consume vegetable or fruit in the previous day	19.8	13.6	32.4	30.8	32.9	18.2	24.6	11.3

