



Turkey Nutrition and Health Survey (TNHS) - 2017

National Nutrition and Health Surveys are necessary to determine the status in the country in this field and to develop evidence-based policies. The first food consumption and health survey in Turkey was carried out in 1974, and the second one was repeated in 1984 in order to determine the changes in food consumption patterns in three provinces, without considering the health aspect. Turkey Nutrition and Health Survey (TNHS) – 2010 was carried out in collaboration with our Ministry of Health and Hacettepe University, and the survey results shaped the policies of the Ministry of Health. The repeated survey was initiated by our Ministry across the country in 2017 and completed in 2019. TNHS was performed in collaboration with our Ministry, Başkent University, Hacettepe University and Hasan Kalyoncu University.

The TNHS-2017 sample was determined by the Turkish Statistical Institute (TURKSTAT) among the population aged 15 years and over registered in family medicine database, and 12,986 individuals were interviewed. The individuals determined for the sample were invited to the Family Health Centers, and after blood collection, questionnaires were filled out and anthropometric measurements were taken. 24-hour dietary recall were administered twice with an interval of 2 weeks (14 days) as recommended by EFSA (European Food Safety Authority), with the first one carried out face-to-face and the second one carried out face-to-face or by telephone.



Eat Healthy,
Move for Health



SUMMARY FINDINGS

OBESITY

Prevalence of obesity among individuals aged 15 years and over (%)

	Overweight (BMI: 25.0-29.9 kg/ m ²)	Obese (BMI ≥30 kg/m ²)
Males	39.9	24.6
Females	27.6	39.1
OVERALL	34.0	31.5

BMI: Body Mass Index

Distribution of overweight and obese individuals aged 15 years and over according to NUTS (Nomenclature of Territorial Units for Statistics) regions (%)

NUTS REGIONS	Overweight			Obese		
	Males	Females	Overall	Males	Females	Overall
Istanbul	42.3	26.7	34.5	26.2	35.1	30.7
Western Marmara	40.4	30.0	36.1	26.5	44.0	33.7
Aegean	39.8	30.5	35.3	28.6	37.8	33.1
East Marmara	42.5	30.0	36.7	24.9	40.1	32.0
West Anatolia	43.2	28.4	35.6	25.8	39.0	32.6
Mediterranean	38.1	26.3	32.5	25.4	39.5	32.1
Central Anatolia	44.3	28.3	36.5	25.5	49.2	36.9
West Black Sea	34.7	28.2	31.6	29.1	47.1	37.5
East Black Sea	42.9	27.3	35.2	22.7	48.2	35.4
Northeast Anatolia	36.9	26.1	32.0	16.2	34.9	24.7
Central East Anatolia	39.3	22.1	31.3	12.6	38.3	24.5
Southeast Anatolia	33.7	24.6	29.6	17.1	32.9	24.2

Distribution of risk of metabolic diseases in individuals aged 15 years and over by gender and waist circumference (%)

	Normal <i>Waist circumference values</i> Male: <94 cm, Female: <80 cm	Increased risk <i>Waist circumference values</i> Male: 94-101.9 cm, Female: 80-87.9 cm	High risk <i>Waist circumference values</i> Male: ≥102 cm, Female: ≥88 cm
Males	47.9	24.2	27.9
Females	28.9	18.2	52.9

PHYSICAL ACTIVITY

Distribution of physical activity levels according to MET values among individuals aged 15 years and over, by gender (%)

MET CLASSIFICATION	MALES	FEMALES	OVERALL
Low	31.7	53.1	42.4
Moderate	32.8	33.4	33.1
High	35.5	13.5	24.4

Global Physical Activity Questionnaire.

Three physical activity levels recommended for classification of individuals are: low, moderate and high.

MET: Metabolic Equivalents

HEALTH STATUS

Distribution of prevalence of diseases and disability in individuals aged 15 years and over (%)

Disease	Prevalence (%)
Diabetes mellitus (DM) > Diagnosed with DM > HbA1c: \geq %6.5 or > Blood glucose: \geq 126 mg/dL	12.5
Cardiovascular disease	16.2
Oral and dental health problems	70.7
Disability	3.5

- The frequency of attendance/admission to any healthcare facility was 55.2% in the last three months. Of these attendances/admissions, 66.8% was to a hospital, 26.8 to the Family Health Center, 6% to the Oral and Dental Care Center and 0.3% to the Public Health Center.
- The most common reason of attendance/admission to any healthcare facility was "Illness" (60.2%). It was followed by "Control" (13.9%), "Medication Prescription" (11.3%) and "Emergency" (7%), respectively.



BIOCHEMICAL FINDINGS

Among individuals aged 15 years and over whose blood samples were examined:

- Prevalence of individuals with total cholesterol level above 200 mg/dL was 33.4%.
- Prevalence of individuals with triglyceride level above 150 mg/dL was 28.5%.
- While 21.7% of females had hemoglobin levels below 12 mg/dL, 5% of males have had hemoglobin levels below 13 mg/dL.

Distribution of Vitamin B₁₂ (pg/mL) values among individuals aged 15 and over, %:

Vitamin B ₁₂ (pg/mL), %			
≤73 Very low	74-148 Clinical	149-222 Subclinical	≥223 Normal
0.5	9.8	26.6	64.1

Distribution of TSH values (mIU/L) among individuals aged 15 years and over, %:

GENDER	TSH (mIU/L), %		
	≤0.26 Low	0.27-4.2 Normal	≥4.3 High
Males	0.8	94.0	5.3
Females	1.8	89.1	9.2
Overall	1.3	91.5	7.2

Distribution of Vitamin D (ng/mL) values among individuals aged 15 years and over, %:

Vitamin D (ng/mL), %				
<10 Very low	10-19 Low	20-29 Insufficient	30-79 Normal	≥80 High
18.2	44.7	25.9	10.9	0.3

TOBACCO USE

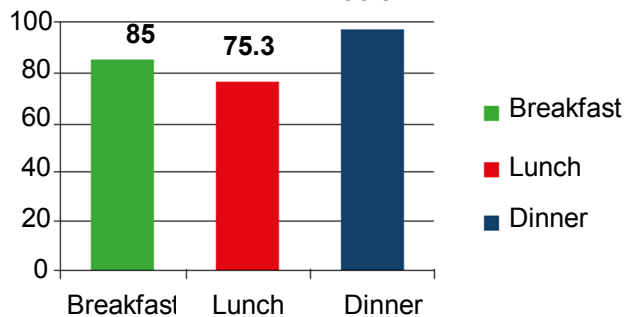


- Prevalence of tobacco use: 33.2%
 - ☛ Males: 47.2%
 - ☛ Females: 19.4%
- Proportion of those who quit tobacco use: 17.1%.

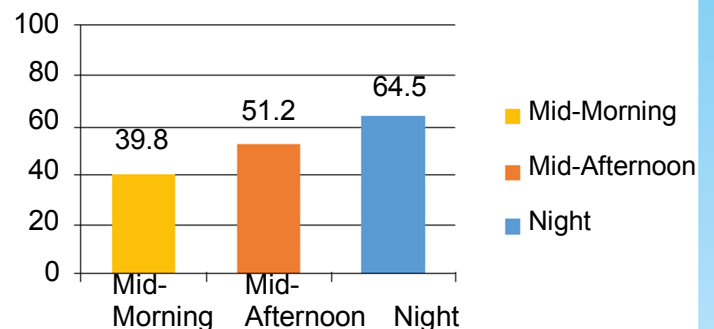


NUTRITIONAL HABITS AND NUTRITIONAL STATUS

Frequency of Main Meal Consumption %



Frequency of Snack Consumption %



Frequency of consumption of main meal and snack per day in individuals aged 15 years and over (%)

- While the most preferred method of cooking vegetables and legumes by individuals was “boiling in a small or large amount of water/steaming” (55.9% and 20.9%, respectively), the most frequently used cooking method was roasting for cooking red meat (29.2%), baking/grilling/cooking on a Teflon pan without oil for chicken (36.9%), and deep frying for fish (51.8%).
- Average daily water intake in individuals aged 15 years and over was 1594.3 mL, 1766.4 mL for males and 1423.8 mL for females.
- Average daily energy intake among individuals aged 15 years and over was 2209.3 kcal for males and 1624.8 kcal for females.
 - ☛ The percentages of energy from protein, fat and carbohydrate in males was 15.4%, 33.6% and 51.0%, respectively.
 - ☛ The percentages of energy from protein, fat and carbohydrate in females was 14.7%, 35.3%, 50.0%, respectively.

- Daily dietary fiber intake was 24.4 g for males and 20.1 g for females.
- Daily consumption of fresh fruits and vegetables was 415 g.
- Daily consumption of foods in the milk and dairy products group (milk, cheese, yoghurt) was 188 g
 - ☛ Consumption of milk per person was 34.5 mL: 0.14 servings per day (Males: 36.3 mL, Females: 32.7 mL), 12.5 L per year.
 - ☛ Consumption of yogurt per person was 112.7 g: 0.56 servings per day (Males: 125.5 g, Females: 100.1 g), 41.1 kg per year.
 - ☛ Consumption of cheese per person was 39 g: 0.65 servings per day (Males: 41.9 g, Females: 36.1 g), 14.2 kg per year.

The consumption of milk and dairy products for individuals aged 15 years and over was 1.35 servings.

- Daily consumption of red meat and poultry was 80.5 g.
 - ☛ Consumption of red meat was 39.1 g per day (Males: 50.0 g, Females: 28.3 g), 14.2 kg per year.
 - ☛ Consumption of poultry was 28.2 g per day (Males: 32.4 g, Females: 19.2 g), 10.2 kg per year.
 - ☛ Consumption of fish was 13.2 g per day (Males: 15.8 g, Females: 10.5 g), 4.8 kg per year.
- Mean consumption of eggs in Turkey was 31.6 g per day, 4.5 eggs per week.
- Consumption of legumes per person was 16.8 g per day and 117.6 g per week.
- Consumption of seeds (walnuts, hazelnuts, almonds and pistachios, etc.) was 9.9 g per person per day.
- Consumption of bread was 179.8 g per day (Males: 226.3 g, Females: 133.9 g).
- The amount of salt intake (salt from foods and added) per person per day was 10.2 g.
- Consumption of sugar (including sugar, sweets, honey, molasses and jam, etc.) per day was 30.6 g.





ADD MOVEMENT TO YOUR LIFE

Meeting of energy and macronutrient intakes in individuals aged years 15 and over according to the EFSA Dietary Reference Values (DRV) (%)

	Males %	Females %	Overall %
Energy (AR)			
Below	68.6	75.4	72.0
Above	31.4	24.6	28.0
Protein (AMDR)			
Below	4.4	6.8	5.6
Recommended	86.4	85.6	86.0
Above	9.2	7.6	8.4
Carbohydrate (AMDR)			
Below	22.8	27.1	25.0
Recommended	72.1	68.8	70.4
Above	5.1	4.1	4.6
Dietary Fibre (AI)			
Below	58.5	75.8	67.2
Above	41.5	24.2	32.8
Fat (AMDR)			
Below	4.0	2.7	3.4
Recommended	55.8	47.9	51.8
Above	40.1	49.4	44.8
Saturated Fat (AMDR)			
Below	39.6	35.8	37.7
Above	60.4	64.2	62.3

Meeting of micronutrient intakes in individuals aged 15 years and over according to the EFSA Dietary Reference Values (DRV) (%)

	Males %	Females %	Overall %
Vitamin A (AR)			
Below	27.5	25.8	26.6
Above	72.5	74.2	73.4
Vitamin D (AI)			
Below	95.4	96.6	96.0
Above	4.6	3.4	4.0
Folate (AR)			
Below	25.6	43.1	34.4
Above	74.4	56.9	65.6
Vitamin B₁₂ (AI)			
Below	48.5	72.7	60.7
Above	51.5	27.3	39.3
Vitamin C (AR)			
Below	48.2	42.0	45.1
Above	51.8	58.0	54.9
Calcium (AI)			
Below	42.1	63.0	52.6
Above	57.9	37.0	47.4
Magnesium (AI)			
Below	65.2	70.7	68.0
Above	34.8	29.3	32.0
Iron (PRI)			
Below	48.6	84.0	66.4
Above	51.4	16.0	33.6

DRV Values

AI: Adequate Intake

AMDR: Acceptable Macronutrient Distribution Range

AR: Average Requirement

PRI: Population Reference Intake

