

ELDERLY: NUTRITIONAL STATUS and NATIONAL POLICIES in TURKEY



*Mapping the Nutrition Landscape
The Role of Nutrition in Healthy Ageing
16 May 2017, Seoul*

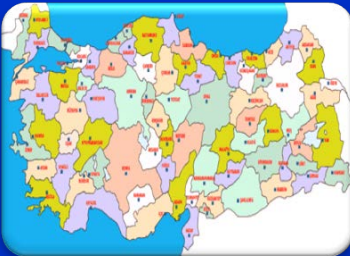
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OUTLINE



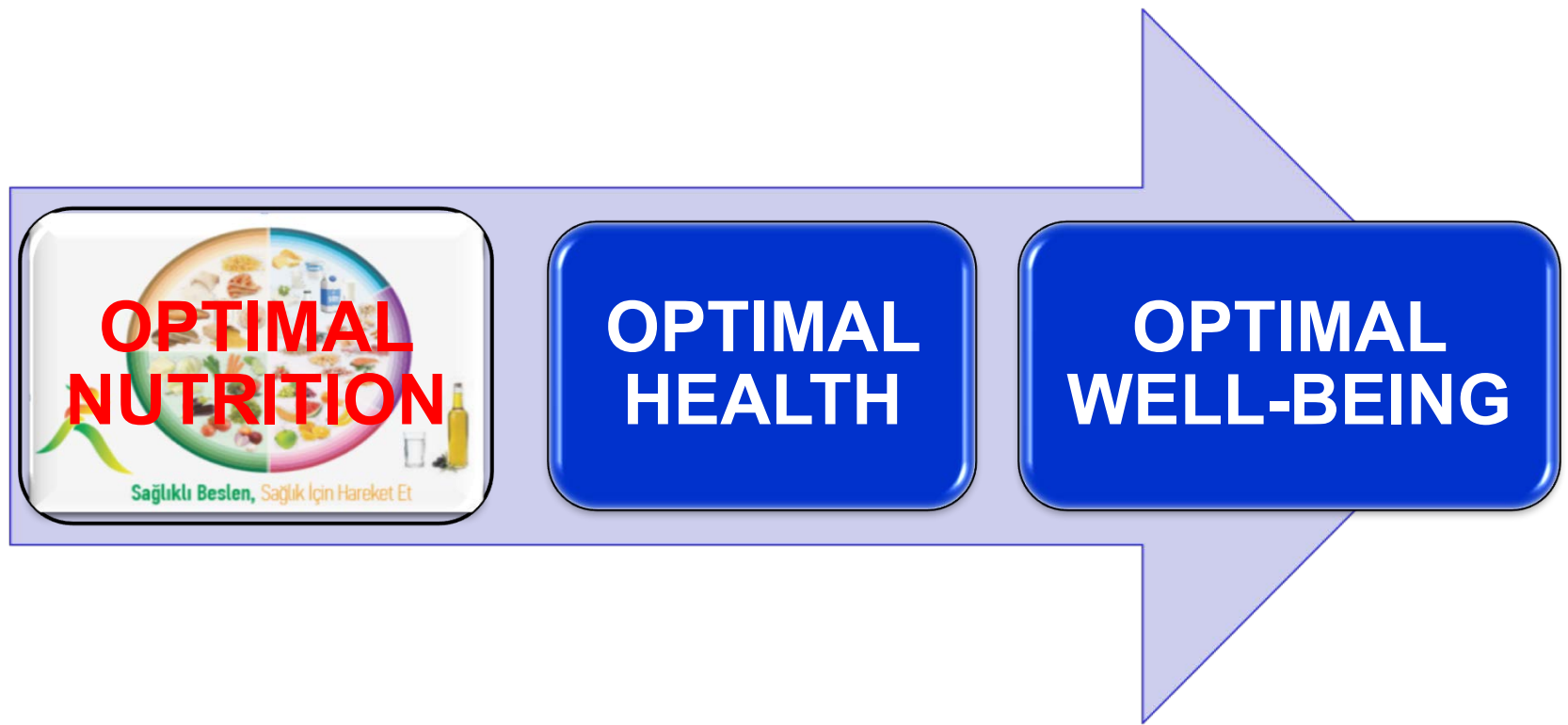
**Optimal nutrition, optimal well-being
Lifecycle strategy, healthy ageing**



**Turkey: Nutritional status of elderly
National Policies**



Conclusion



**Elderly people are nutritionally vulnerable.
Increased nutrient requirements.
Age-related nutritional problems.**

Optimal Diet and Physical Activity

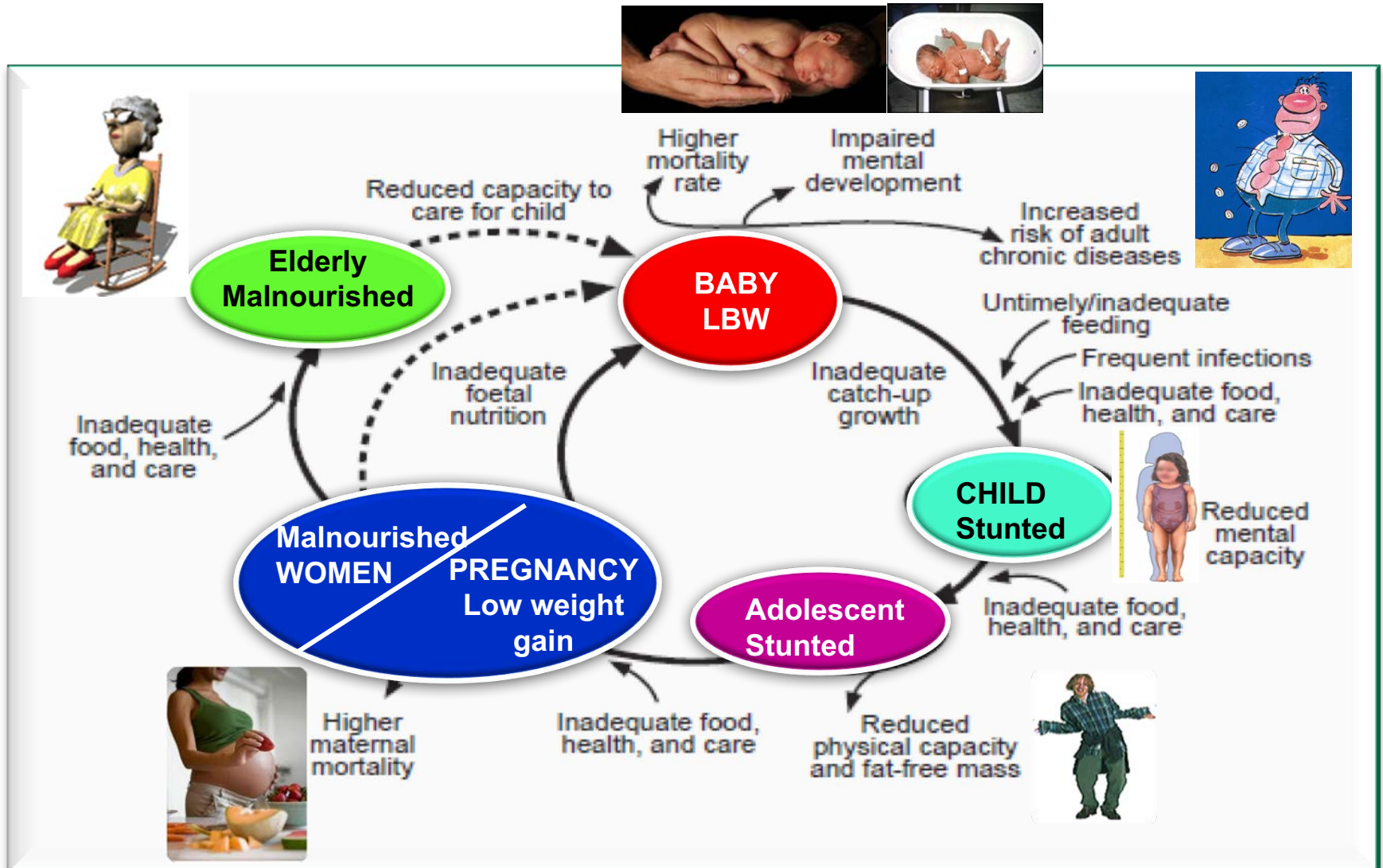
Optimal Diet

(eating a wide variety of foods in adequate and balanced amounts),

regular and adequate physical activity
are major factors in the promotion and
maintenance of good health
throughout the entire life course.



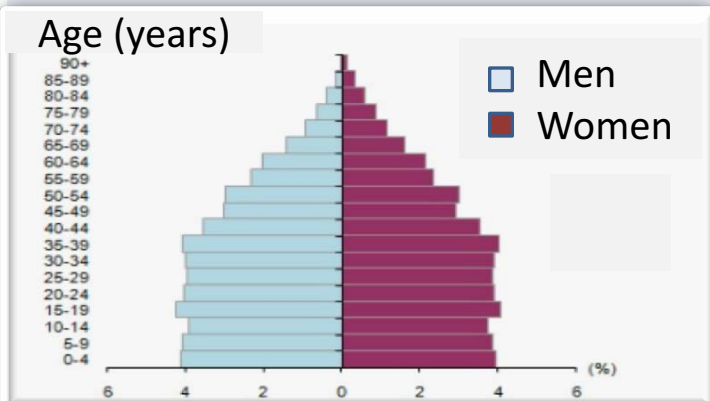
Healthy nutrition throughout the lifecycle... Healthy ageing



Some data for Turkey

(Turkish Statistics Institute)

Population, 2016 (million)	79.814.871
Males	50.2% (40 043 650)
Females	49.8% (39 771 221)
>65 years, (%)	TUIK: 7.7 (2013) 8.0 (2014) 8.3 (2016) M: 7.3%; F: 9.4%
Life expectancy at birth, 2016 (years)	77.2
Males	75.0
Females	79.5





TÜRKİYE BESLENME VE SAĞLIK ARAŞTIRMASI 2010

BESLENME DURUMU VE ALIŞKANLIKLARININ
DEĞERLENDİRİLMESİ
SONUÇ RAPORU

Hacettepe Üniversitesi
Sağlık Bilimleri Fakültesi
Beslenme ve Diyetetik Bölümü

ŞUBAT 2014

TURKEY NUTRITION and HEALTH SURVEY-2010

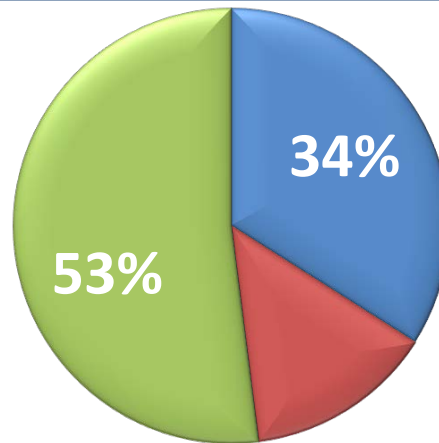


DIETARY INTAKE

≥65 years



ENERGY %



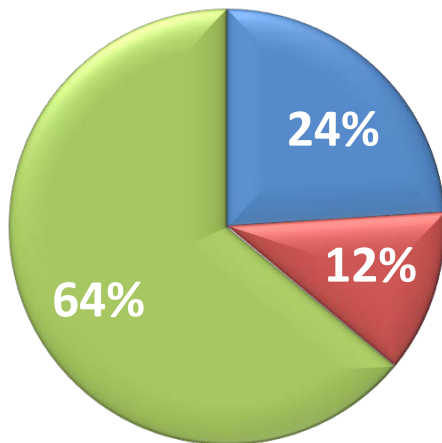
■ Fat

■ Protein

■ CHO

Elderly

2010

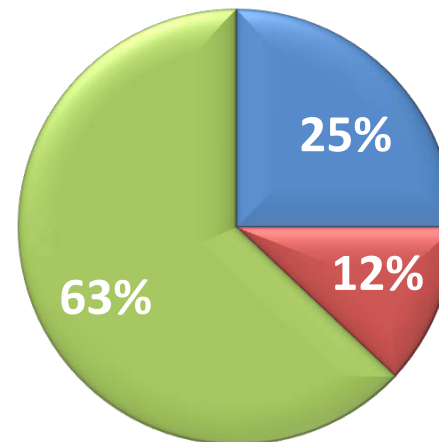


■ Fat

■ Protein

■ CHO

1974



■ Fat

■ Protein

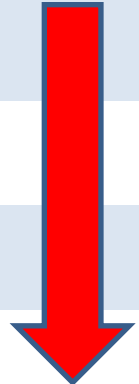
■ CHO

1984

FOOD INTAKE (g/day): >65 y



Foods	Males	Females	Guideline 2017
Meat (g)	43	31	60
Eggs (g)	20	14	18
Legumes, nuts (g)	12	10	13
Milk and milk products (g)	183	142	720
Fruits and vegetables (g)	551	485	400
Bread (g)	190	148	150-200
Cereals (g)	55	44	13



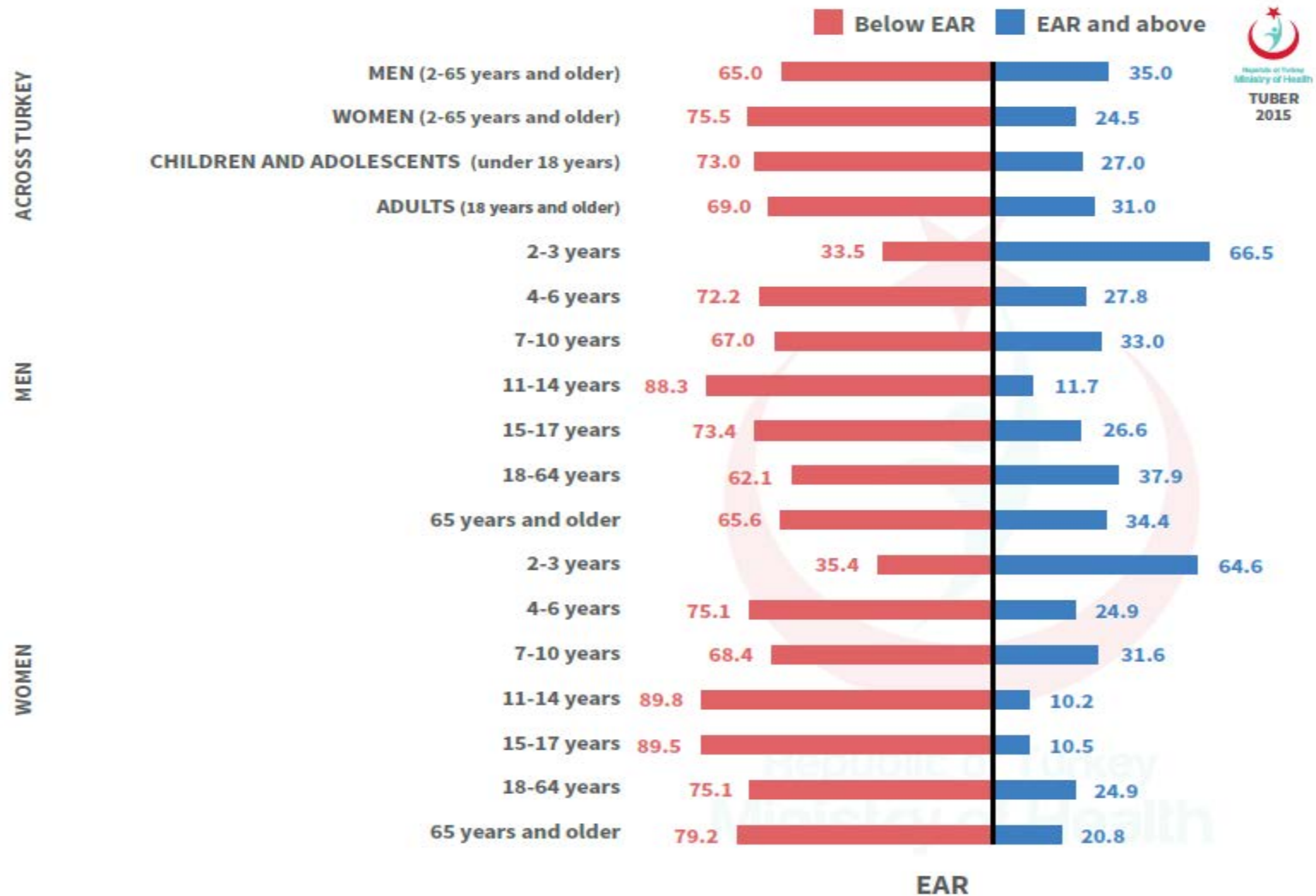
Dietary Intake [Below EAR/AI, %]

	Males	Females
Vitamin B1	65.2	75.8
Vitamin B2	42.0	48.0
Vitamin B6	57.6	68.2
Vitamin B12 (AI)	82.4	90.3
Folate	25.3	47.5
Vitamin A	40.0	43.9
Vitamin E (AI)	56.6	60.6
Vitamin D (EAR)	99.1	
Vitamin C	37.7	41.1

Dietary Intake [Below EAR/AI, %]

	Males	Females
Calcium (EAR)	65.6	79.2
Potassium (AI)	96.2	97.3
Magnesium (AI)	79.8	81.0
Iron (RDA)	33.0	26.0
Zinc	59.4	63.8
Fiber (AI)	64.8	79.6
Water (AI)	71.0	62.8

CALCIUM



Source: Turkey Nutrition and Health Survey 2010
Ministry of Health of Republic of Turkey / Hacettepe University, February 2014

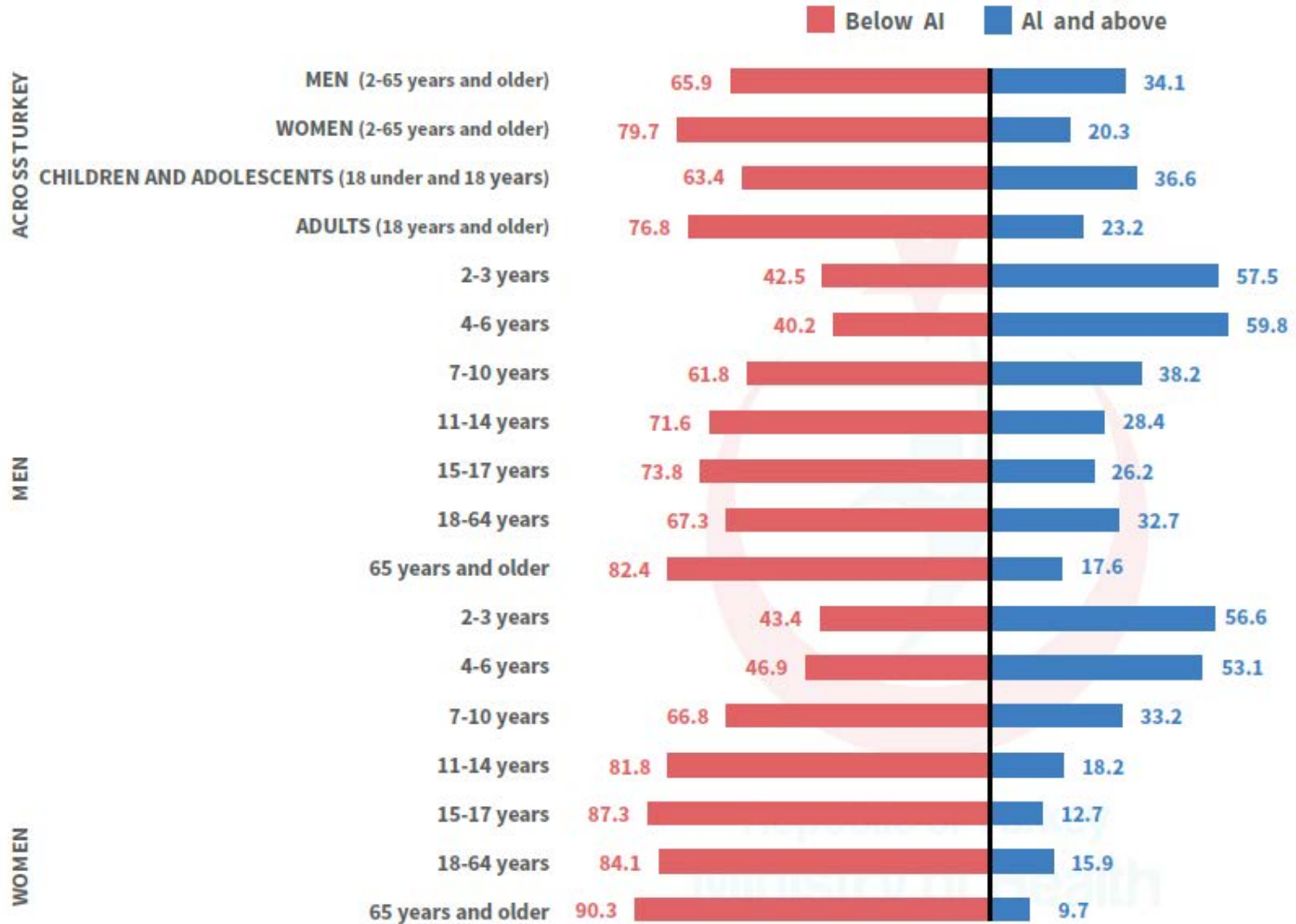
VITAMIN D



Source: Turkey Nutrition and Health Survey 2010
Ministry of Health of Republic of Turkey / Hacettepe University, February 2014

EAR

VITAMIN B12





BIOMARKERS

Calcium

- M: 9.6, F: 9.7 mg/dL (med.)
- <8.5 mg/dL: M: 2.8%, F: 3.3%

Vitamin D

- <10 ng/mL: M: 2.9%, F: 12.2%
- <30 ng/mL: M: 57.3%, F: 75.7%

Vitamin B12

- M: 164, F: 174 pg/mL (med.)
- <125.5 pg/mL: M: 28.4%, F: 24.3%

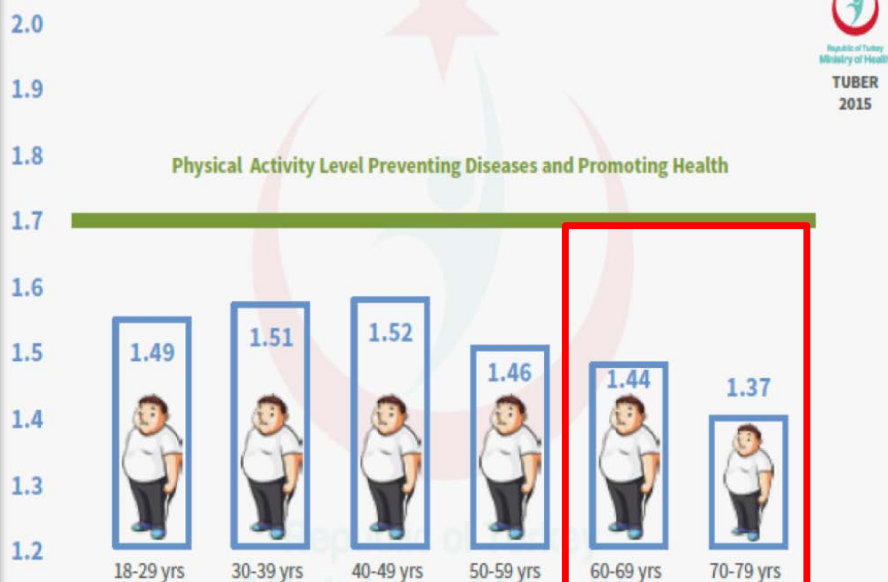
PHYSICAL ACTIVITY LEVEL

≥65 years



Physical Activity Level (PAL)

Physical Activity Level of Elderly Men



Source: Turkey Nutrition and Health Survey 2010
Ministry of Health of Republic of Turkey / Hacettepe University, February 2014

Physical Activity Level of Elderly Women



Source: Turkey Nutrition and Health Survey 2010
Ministry of Health of Republic of Turkey / Hacettepe University, February 2014

Turkey Nutrition and Health Survey, 2010

ANTHROPOMETRIC DATA ≥ 65 years



UNDERWEIGHT, OVERWEIGHT and OBESITY in ELDERLY (%)



**BMI
(kg/m²)
<18.5**



**BMI
(kg/m²)
25-29.9**



**BMI
(kg/m²)
≥30**



1.8%



46.0%



30.4%



1.1%



25.8%



53.5%

CONCLUSION



MAIN STEPS in SOLVING the PROBLEMS

1

- **assessment** to identify the problem (s) of elderly

2

- **planning** to meet the nutrition needs of the elderly

3

- **implementation** to develop programs to reduce the problem

4

- **evaluation** to see if the problem has been ameliorated or solved.



NATIONAL POLICIES

PREVENTION OF NUTRITIONAL PROBLEMS



Improvement of dietary intake



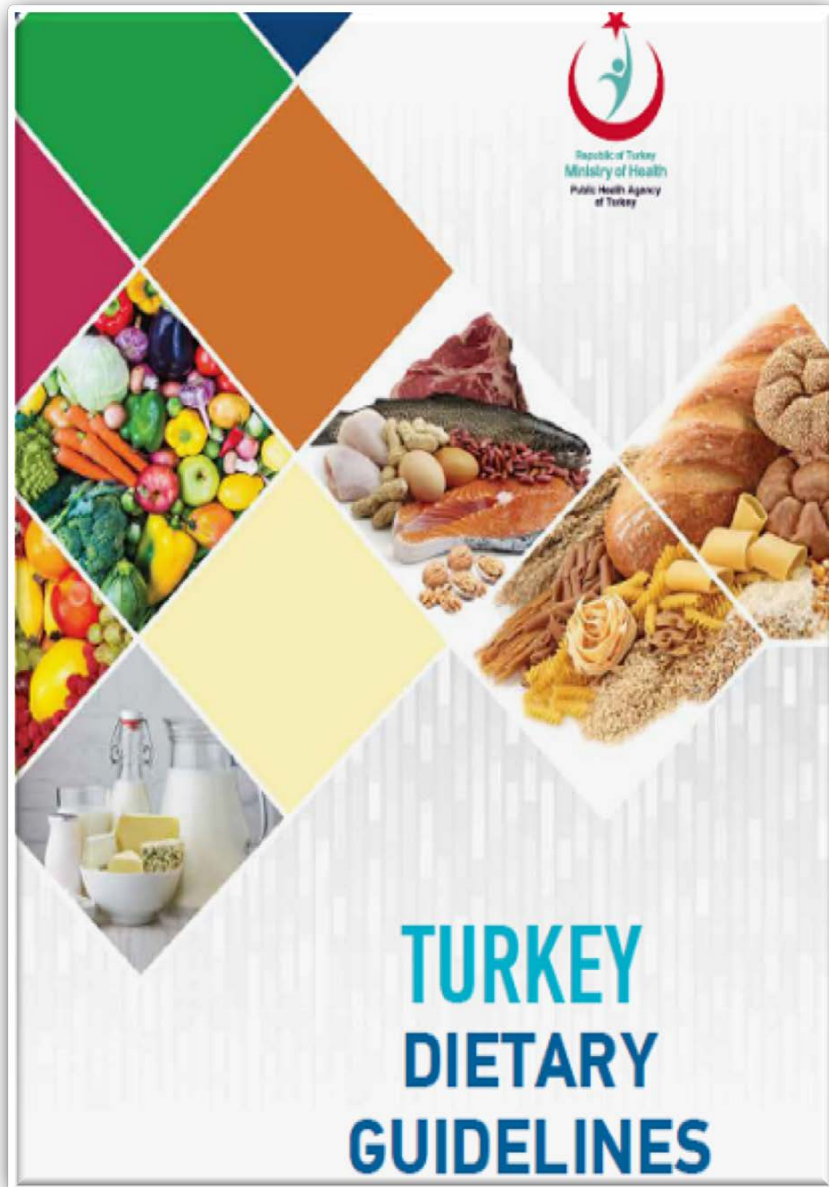
Food fortification



Food supplementation



Prevention of infections and diseases

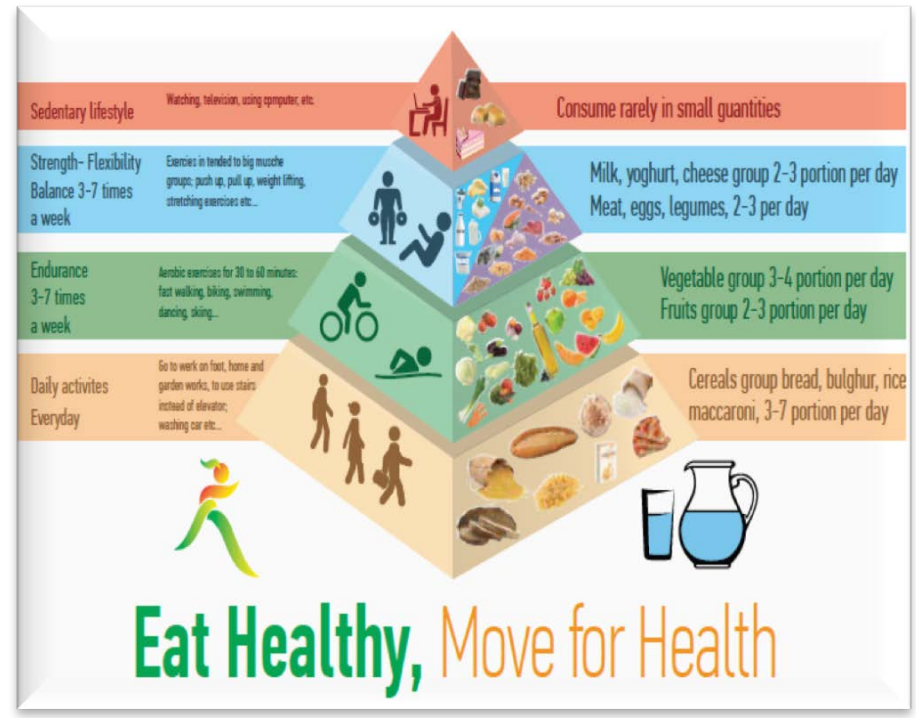


DIETARY GUIDELINES 2016

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Healthy Food Plate



Healthy Nutrition and Physical Activity Pyramide

MILK, YOGHURT and CHEESE

Total Daily Portion Amounts Recommended for Milk-Yoghurt-Cheese

	PORTION	PORTION
2-3 years	2½	2
4-6 years	2½	2½
7-10 years	3	3
11-14 years	3	3
15-18 years	3	3
18-49 years	3	3
50-70 years	3	3
70 years and older	3	3

Appendix 2.1. Standard Portion Sizes and Amounts of Foods According to Food Groups

1 standart portion: Approximately 150 kcal

SIZE/ AMOUNT	
Milk	1 cup or 240 mL
Yoghurt	1 cup or 1 small bowl or 200 mL
Yoghurt (home made)	1 cup or 1 small bowl or 240 mL
Kephir	1 cup or 240 mL
Diluted yoghurt (ayran)	1.5 cup or 1 big glass or 1 big readymade diluted yoghurt (ayran) or 350 mL
White Cheese	3 fingers or 2 matchboxes or 60 g
Kashar Cheese	2 fingers or 40 g



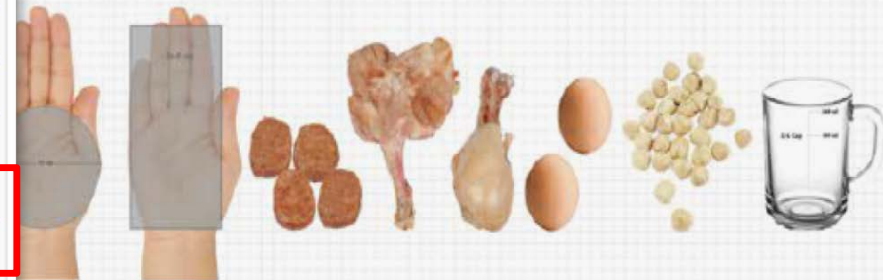
MEAT, EGGS and LEGUMES

	Meat, Poultry, Fish, Eggs ¹	Meat, Poultry ^{2,3}	Eggs	Fish	Legumes ⁴	Seeds ⁵
	Total Portion/day	Portion/day	Portion	Portion/week	Portion/week	Portion/day
2-3 years	¾ - 1	¼ - ½	daily ½	¾ - 1	1	⅛ (⅓)
4-6 years	1 - 1½	½ - ¾	daily ½	1 - 1½	1 - 2	¼ (½)
7-10 years	1½	¾	daily ½	1½ - 2	3	½ (1)
11-14 years	1½	¾	daily ½	2	3	½ (1)
15-18 years	2	1¼	daily ½	2	3-4	1 (1½)
18-49 years	1½	¾	weekly 2½	2	3	½ (1)
50-70 years	1½	¾	weekly 2½	2	3	½ (1)
70 years and older	1½	¾	weekly 2½	2	3	½ (1)

	Meat, Poultry, Fish, Eggs ¹	Meat, Poultry ^{2,3}	Eggs	Fish	Legumes ⁴	Seeds ⁵
	Total Portion/day	Portion/day	Portion	Portion/week	Portion/week	Portion/day
2-3 years	¾ - 1	¼ - ½	daily ½	¾ - 1	1	⅛ (⅓)
4-6 years	1	½	daily ½	1 - 1½	1 - 2	¼ (½)
7-10 years	1½	¾	daily ½	1½ - 2	3	½ (1)
11-14 years	1½	¾	daily ½	2	3	½ (1)
15-18 years	1½	1	daily ½	2	3	½ (1)
18-49 years	1½	¾	weekly 2½	2	3	½ (1)
50-70 years	1½	¾	weekly 2½	2	3	½ (1)
70 years and older	1½	¾	weekly 2½	2	3	½ (1)

1 Standard Portion: Approximately 150-200 kcal

SIZE/AMOUNT	
Egg	2 small eggs or 100 g
Cooked red meat^{1,2,3}	3-4 grilled meatballs or 1 Adana meatball or 10-14 Inegöl meatball or 2 hamburger meatballs or 1 meat at the size of palm or 1 large meat chop or 80 g
Cooked poultry meat^{1,2,3}	1 medium sized chicken baguette or poultry meat at the size of a palm or 80 g
Cooked fish	1 slice at the size of a hand or 1 thick slice at the size of a palm or 150 g
Cooked small fishes such as anchovy	12-13 pieces or 150 g
Canned tuna	Drained 100 g
Cooked shrimp and other sea products	12-15 small pieces or 100 g
Chickpea, beans, cranberry bean, shelled broad beans¹, cowpea (boiled)	¾ cup or 2 small ladle ⁴ or 8-10 tablespoons or 130 g
Hazelnut⁵	28-30 pieces or 1 handful or 30 g
Walnut⁵	4-5 large pieces or 6-7 medium sized pieces or 10-12 small full crushed walnut or 1 handful or 30 g
Almond⁵	24-26 pieces or 1 handful or 30 g
Peanut⁵	27-30 pieces or 1 handful or 30g
Cashew⁵	18-20 pieces or 1 handful or 30 g
Sunflower Seed⁵	1 cup or 5 handful or 60g (measure with shells)
Pumpkin Seed⁵	½ cup or 2,5 handful or 40 g (measure with shells)
Pistachio⁵	2 handful or 60 g (measure with shells)



VEGETABLES

	PORTION	PORTION
2-3 years	1-2	1-2
4-6 years	2	2
7-10 years	2-2 ½	2-2 ½
11-14 years	2-2 ½ - 3 ½	2-2 ½ - 3
15-18 years	3 ½ - 4	3 ½
18-49 years	3 ½	2 ½
50-70 years	2 ½ - 3	2 ½
70 years and older	2 ½	2 ½

1 Standard Portion: Approximately 25-85 kcal

SIZE/AMOUNT ^{1,2}

Dark green leafy vegetables; Mediterranean/salad greens like Spinach, chard, purslane, savoy cabbage, vine leaves(cooked) Cabbage lettuce, lettuce, spinach, purslane, parsley, watercress, rocket, mint, lamb's-ear, basil, dill, chicory, cabbage lettuce -succory (Sliced, chopped or as salad)	1 cup or 1 fist or 5-6 tablespoons or 2 middle-sized laddle ³ or 10-25 vine leaves 2 cup or 2 fist or 1 large bowl	 <p>¹ large bowl or 6 cups of unchopped raw spinach ² cup of spinach-dish is obtained from 6 cups of raw spinach</p>
Other green vegetables; Broccoli, okra, green bean, fresh broad bean, green peas, zucchini, artichoke, asparagus, brussell sprouts (cooked) green or sweet pepper types, cucumber (chopped, raw) Iceberg lettuce (Sliced, chopped or as salad)	1 cup or 1 fist or 5-6 tablespoons or 2 middle-sized laddle ³ 1 cup or 1 fist or 1 small bowl 2 cup or 2 fist or 1 large bowl	
Red-orange-blue-purple vegetables; Tomato, carrot (raw or cooked), red pepper, radish, pumpkin, red beet, egg-plant, red cabbage (chopped, raw or cooked),	1 medium size or 1 cup or 1 fist 1 cup or 1 small bowl or 5-6 tablespoons or 2 middle-sized laddle ³	
White vegetables; Onion, cellery, cabbage, cauliflower, leek mushroom, sunchoke, turnip (chopped, raw or cooked)	1 cup or 1 fist or 2 middle-sized laddle ³ or 5-6 tablespoons	
Starchy vegetables Potato Fresh corn	½ medium size or 1 piece at the size of computer mouse ½ cup chopped or puree or 8-10 pieces cutted in 6-10 cm ½ cup boiled or ½ piece large corncob in 20-22 cm	 <p>¹ No standard portion</p>
Vegetable juices	150 mL	



FRUITS

	PORTION	PORTION
2-3 years	1½	1½
4-6 years	1½ - 2	1½
7-10 years	2	2
11-14 years	2½	2 - 2½
15-18 years	2½ - 3	2½
18-49 years	2½	2
50-70 years	2 - 2½	2
70 years and older	2	2

1 Standart Portion: 50-100 kcal

SIZE/AMOUNT ¹	
Apple, orange, peach, nektarine	1 medium size; in diameter 7 cm or at the size a 1 fist
Pear, quince	1 small size or 1n a size that 5 pieces weight 1 kg
Mandarin	1 medium size; 6 cm in diameter
Lemon	2 large size; 6.5 cm in diameter
Kiwi	2 medium size; in diameter 5 cm
Banana	1 in hand lenght or slices ⅔ small bowl
Japanese persimmon	2 heaping tablespoons
Watermelon, melon	4-5 slices at a size of a match boxe or 2 slices in thickness and lengh of 3 fingers or 3 triangular pieces in size 9 cm x 6 cm x 2 cm or 1/16 of watermelon of 8 kg
Cherry, sour cherry	13-15 large size or 1 small bowl
Strawberry	7-8 large or 15 medium size
Grape types	20 large or 25-30 small size or 1 small bowl
Blackberry, raspberry, mulberry	50-60 pieces or 1 small bowl
Bilberry	1 small bowl
Pomegranate	half in diameter 10 cm or grained in 1 small bowl
Apricot	4 large or 7-8 small
Fig	2 pieces; 6.5 cm in diameter
Japanese plum	8 large or 12 small
Pineapple	1 finger - 2 thin slices in 1.5 cm in thickness
Plum	1 large or 3-5 small
Dried apricots, plum, fig	3-4 pieces
Dried grape (raisin),	20-30 pieces, 30 g
Dates	1 large or 3 small pieces



BREAD and CEREALS

	PORTION	PORTION
2-3 years	2½	2½
4-6 years	2½ - 3	2½
7-10 years	3 - 4	3 - 3½
11-14 years	4½ - 5	4 - 4½
15-18 years	7 - 8	4-5
18-49 years	5	3½ - 4
50-70 years	4 - 4½	3½
70 years and older	4	3

1 Standard Portion: Approximately 150 kcal

SIZE/AMOUNT	
Bread ¹	2 thin slices or 50 g
Pita-Flatbread-lavash ¹	¼ small or ½ large or 50 g
Bagel ¹	½ piece or 50 g
Hamburger bread ²	1 small or ¾ medium sized or ¾ large
Bulgur, cooked ^{3,4}	½ cup or 1 levelled off medium sized ladle ⁷ or 4-5 tablespoons or 90 g ⁵
Rice, cooked ^{1,3,4,5}	½ cup or 1 levelled off medium sized ladle ⁷ or 4-5 tablespoons or 90 g
Pasta, boiled ^{1,4,5}	½ cup or 1 levelled off medium sized ladle ⁷ or 4-5 tablespoons or 75 g
Soup types¹⁰, grains, legumes, vegetables etc.	¾ cup or 1.5 levelled off medium sized ladle ⁷ or ^{8,10}
Hardtack or Grissini ¹	30 g
Wheat/rice flakes	½ cup or 1 levelled off medium sized ladle ⁷ or 30 g
Oatmeal/Muesli	¼ cup or 30 g or 1 levelled off medium sized ladle ⁹
Cornflakes	1 cup or 2 levelled off medium sized ladle ⁷ or 30 g
Filo ¹	½ filo or 50 g
Popcorn	3 cup or 1 large bowl or 25 g





T.C. Sağlık Bakanlığı
Türkiye Halk Sağlığı Kurumu

**TÜRKİYE
SAĞLIKLI YAŞLANMA EYLEM PLANI
ve
UYGULAMA PROGRAMI
2015-2020**



ANKARA 2015

TURKEY HEALTHY AGEING ACTION PLAN 2015-2020

- **Healthy ageing**
- **Increasing awareness
(nutrition, exercise etc)**

NO NATIONAL PROGRAMMES for;



Improvement of dietary intake



Food fortification



Food supplementation



Prevention of infections and diseases

FOOD SUPPLEMENTS (%) (TNHS, 2010)



8.8% (M: 1.9%; F: 14.1%)

③



4.3% (M: 3.3%; F: 5.1%)



6.4% (M: 6.0%; F: 6.9%)



15.2% (M: 5.0%; F: 22.9%)

①



0.4% (M: 0.2%; F: 0.6%)



FOOD SUPPLEMENTS (%) (TNHS, 2010)



1.0% (M: 0.1%; F: 1.7%)



0.4% (M: 0%; F: 0.7%)



13.0% (M: 7.4%; F: 17.4%)

②



1.0% (M: 0.0%; F: 1.6%)



3.2% (M: 0.7%; F: 5.0%)



