

# Preventive Medicine

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**Abstract.** The most common causes of death of older persons in Turkey are heart and circulatory system diseases, cancers, lung diseases, endocrine-nutritional-metabolic diseases, injuries and poisonings, nervous system diseases and infections. The Turkish Ministry of Health provided a list of diseases (Hypertension, Diabetes Mellitus, Dyslipidemia, Osteoporosis, Abdominal Aortic Aneurism, Malnutrition, Obesity, Coronary Artery Disease, Iron Deficiency Anaemia, Dementia, Depression, Thyroid Disorders, Visual Impairment, Hearing Impairment) and cancers (Breast, Colorectal, Cervical, Prostate, Thyroid, Lung, Oral, Ovary, Pancreas, Bladder, Skin and Testicular Cancers) from which death is preventable following an early diagnosis and recommended screenings. Whilst preventive recommendations and lifestyle changes include vaccination, nutrition, fluid intake and dehydration, tobacco cessation counselling, antioxidants, aspirin, and exercise-mobility, screening tests are available for Hypertension, Diabetes Mellitus, Dyslipidaemia, coronary heart disease, colorectal cancers, cervical cancer, prostate cancer, osteoporosis, dementia and depression, malnutrition, and obesity.

**Keywords:** Turkey; ageing population, prevention; screening tests.

## Introduction

The easiest and most efficient way for dealing with diseases is to take preventions before the disease itself occurs. Preventive medicine aims to identify individuals under risk for diseases, using cheap, effective, harmless, and most appropriate scanning methods, by determining the risk factors for health and the population at risk. Early diagnosis with this approach is providing an opportunity to proper treatment on-time and is increasing the general health level of the population (1, 2). The fact that preventive medicine has been developed and the chance of early diagnosis has increased has a great importance in the continuation and improvement of health in the whole society. Nowadays, medical practice and treatment costs constitute a large part of health spending, and preventive medicine

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becomes more important. Just as in all the countries of the world, the importance of preventive medicine in Turkey is increasing and serious attempts have been made in recent years (3).

Preventive medicine services are evaluated in three categories as primary, secondary and tertiary care. *Primary prevention* is the attempt to prevent the onset of the disease in asymptomatic individuals. It contains services like vaccination, diet and cessation of smoking to prevent illnesses before they actually occur. This includes protective measures for occupational and environmental health and coordinated work with public health practices. *Secondary prevention* aims at early detection of the disease before the disease becomes symptomatic. Screening methods include early diagnosis, follow-up, and treatment to prevent complications of existing systemic diseases. *Tertiary prevention* includes measures to prevent further worsening of illnesses and complications, rehabilitation work, and to provide the advanced counselling services for family (1, 2, 3, 4).

### **Preventive care for older persons in Turkey**

As is the case in the world, the proportion of people over 65 is increasing in Turkey. In Turkey, we need preventive health services to improve the quality of life of older persons as well as to control geriatric health expenditures. Lifestyle changes, treatment of risk factors, and primary or secondary prevention practices can prevent partially or completely more than half of the diseases. So the provision of comprehensive and preventive health services to older persons is of great importance (5, 6).

In Turkey, older persons are the group that make the most use of public health services. However, unfortunately these persons are often confused because they have to contact so many institutions until they are able to solve their health concern. The disconnection between various health care institutions and between the level of care are the major problems, which are confusing older persons and makes it difficult to get health care services. In Turkey, primary care physicians and nurses take care of patients in Family Health Centres and play a major role in the implementation and follow-up of preventive medicine practices (6). It is particularly difficult in older persons to establish a standard approach in preventive medicine, which is valid and reliable in all parts of the world. The leading causes of deaths in older individuals worldwide and country-specific are carefully examined for the identification and provision of preventive services and for screening of these diseases. The most common causes of death of older persons in Turkey according to the year 2015 are heart and circulatory system diseases, cancers, lung diseases, endocrine-nutritional-metabolic diseases, injuries and poisonings, nervous system diseases and infections (Table 5.1). This list is almost the same with some minor differences in countries with similar levels of development around the world (7).

**Table 5.1: Distribution of causes of death according to Turkish Statistical Institute.**

	2014		2015	
	Number	(%)	Number	(%)
<b>Total</b>	<b>383639</b>	<b>100.0</b>	<b>392429</b>	<b>100.0</b>
Circulatory system diseases	153646	40.0	157965	40.3
Malign and benign neoplasms	78074	20.4	78661	20.0
Lung diseases	40638	10.6	43566	11.1
Endocrine-nutritional-metabolic diseases	19424	5.1	19728	5.0
Central nervous system and sensory organ diseases	16616	4.3	19035	4.9
Causes of external injury and poisoning	20160	5.3	17696	4.5
Other (infection, infestation, mental-behavioural disorders, musculoskeletal and connective tissue disorders etc.)	55081	14.4	55778	14.2

This list gives us not only roughly the organ systems and diseases that need to be screened; also it gives us the factors and real risks underlying these diseases, and pointing at the protective health practices that should be taken. For this reason, many of these deaths and illnesses can be prevented or at least delayed with proper lifestyle practices and accurate screenings. But there are some differences when it comes to screening of older persons. The frequencies of diseases in older persons are different than younger persons. Therefore, we need to use age related incidence and prevalence rates for each condition we are screening (8). The efficacy of protective interventions also varies depending on the physical health, functional capacity and cognitive status of the older individual. For this reason, in the selection of the screening test we should also consider the accompanying diseases and the general condition of the person (9, 10).

The Turkish Ministry of Health investigated work from various countries, and similar national and international guidelines before preparing the National Periodic Investigation Guideline in 2015, which depends also on numerous scientific investigations (11). The National Periodic Investigation Guideline, which also took the recommendations of the United States Preventive Services Task Force (USPSTF) into account, gives a list of diseases possible with early diagnosis, cancers and recommended screenings in Tables 5.2 and 5.3 (9, 10, 11, 12, 13, 14).

**Table 5.2: Diseases possible with early diagnosis by screening and recommended screenings**

<b>Disease</b>	<b>Recommended screening in turkey and frequency</b>
Hypertension	Screening by blood pressure measurement Consider screening once every two years in patients with optimal blood pressure (120-130/80-85 mmHg). Consider screening once a year in patients with high-normal blood pressure (130-139/85-89 mmHg).
Diabetes Mellitus	Screening by fasting blood glucose Consider screening in everyone over 40 and in high-risk groups once every three years. It is recommended to start screening persons with high risk of diabetes in earlier ages and more frequently.
Dyslipidemia	Screening by lipid profile (Total Cholesterol, Triglycerides, LDL-C and HDL-C) Consider screening once every five years between 35 to 75 years of age.
Osteoporosis	Screening by biochemical tests and DEXA Consider biochemical tests in everyone over 65 once a year. Consider at least one DEXA measurement in females over 65 and males over 70.
Abdominal Aortic Aneurism	Screening by abdominal sonography Consider screening once in every male between 65-75 years who has ever smoked.
Malnutrition	Screening by measuring BMI Consider in everyone once every year to identify nutritional status.
Obesity	Screening by measuring BMI Consider in everyone once every year to identify nutritional status. It is recommended to evaluate and follow-up with BMI and waist circumference. Also, a follow-up with everyone who lose weight was administered within three months' intervals.
Coronary Artery Disease	Consider screening everyone regularly with overweight, diabetes mellitus, tobacco use, high lipid profile, high blood pressure or high-risk persons with family history. It is not recommended to screen persons with low risk.
Iron Deficiency Anaemia	Screening by complete blood count measurement Consider measurement once a year for persons with underlying chronic condition. Consider measurement once every 5 years for persons 50 years and older without any condition.
Dementia	No recommendation for or against screening. If there are any suspicious signs, the relevant physician examination is sufficient.
Depression	Consider screening in all adults. Routine physician visit is a good opportunity for screening. Suggest psychiatric evaluation in suspicious cases.
Thyroid Disorders	Screening is not necessary unless there is a symptom or family history.
Visual Impairment	Consider screening once a year in every person over 65.
Hearing Impairment	Consider screening once a year in every person over 65.

**Table 5.3: Cancers possible with early diagnosis by screening and recommended screenings**

<b>Cancer</b>	<b>Recommended screening in Turkey and frequency</b>
Breast Cancer	Screening by routine physical examination and mammography. Consider mammography and physical examination in every female between 40-69 years once every two years. Start earlier in persons with family history.
Colorectal Cancer	Screening by rectal examination, faecal occult blood test, and colonoscopy. Consider in every person between 50-70 years a faecal occult blood testing once every two years and colonoscopy once every ten years.
Cervical Cancer	Screening by HPV and Pap smear testing. Consider screening performed every five years in women aged 30-65 years. Stop screening in females over 65 whose two last HPV or Pap smear testing is negative.
Prostate Cancer	Screening by digital rectal examination. Consider screening once a year after 50 years of age with digital rectal examination and PSA testing. Routine screening is controversial.
Thyroid Cancer	Screening by physical examination. Routine sonography screening not necessary. Consider screening in persons with family history of thyroid cancer.
Lung Cancer	Routine screening in persons without clinical signs or non-smokers not recommended.
Oral Cancer	Routine Screening not recommended. Physical examination is sufficient.
Ovary Cancer	Routine Screening not recommended. Physical examination is sufficient.
Pancreas Cancer	Routine Screening not recommended.
Bladder Cancer	Routine screening in persons without clinical signs not recommended.
Skin Cancer	Routine screening is controversial
Testicular Cancer	Routine screening in persons without clinical signs not recommended.

### Preventive recommendations and lifestyle changes

*Vaccination.* Influenza and pneumococcal vaccinations are the most important primary prevention practices to be applied in older persons. Influenza vaccination should be done once in a year for persons 65 years and older. October and November are the best times for vaccination (12, 13). Both pneumococcal 13-valent conjugate (PCV13) and pneumococcal 23-valent polysaccharide (PPSV23) should be administered routinely in series to all adults aged  $\geq 65$  years. The older persons who have not previously received pneumococcal vaccine or whose previous vaccination history is unknown should receive a dose of PCV13 first, followed by a dose of PPSV23. The dose of PPSV23 should be given 6-12 months after a dose of PCV13.

The two vaccines should not be co-administered, and the minimum acceptable interval between PCV13 and PPSV23 is 8 weeks. The older persons who have previously received  $\geq 1$  doses of PPSV23 also should receive a dose of PCV13 if they have not yet received it. Those vaccinated with before the age of 65 should be vaccinated once more after 5 years from the first vaccination. Vaccination can be done at any month and can be administered at the same time as influenza (12, 13). More than 60 per cent of tetanus infections occur in older persons. Therefore, tetanus toxoid should be repeated every 10 years throughout the geriatric period (8, 11, 12, 13). In Turkey, meningococcus is being vaccinated for those who routinely visit the pilgrimage. Tetravalent ACWY polysaccharide (meningococcal 4-valent conjugate) vaccine is given to these persons about a month before leaving the country. The meningococcal vaccine can be administered in a single dose (8, 12).

*Nutrition.* With age, the energy requirement of the body decreases gradually. Therefore, after age 51, the daily calorie intake needs to be reduced by 600 kcal / day for men and 300 kcal / day for women. However, proteins, calcium, iron and vitamins are inadequate in diets containing energy below 1800 kcal, and many older persons have to comply with these diets. Therefore, high-nutrient foods should be recommended that would not be in conflict with the diet applied to the older person with multisystemic diseases. A healthy diet reduces both mortality and morbidity, as well as the risk of developing breast and colon cancers, osteoporosis, and malnutrition. The daily nutrition program should include frequent meals with small amounts of high fibre foods. The composition of the diet should include a restriction of alcohol intake, a reduction in salt (3g to 5g per day) and fat consumption (Less than 30 per cent of the daily energy should come from fat, and up to 10 per cent of this should be saturated fats), as well as a calcium supplementation up to 1500 mg per day (6, 8, 14, 15).

*Fluid intake and dehydration.* Especially in patients with dementia and sensory impairment, there is a high risk of dehydration and hypernatremia due to inadequate fluid intake in older persons. Especially those who have an appetite problem are at increased risk of getting inadequate food and therefore inadequate fluids. Changes in mental status due to hypovolemia may occur and renal function may be adversely affected accordingly. As long as there is no contraindication, an average daily fluid intake of 1500ml to 2500ml is required. The problem of not accessing the fluid should be questioned and if present it must be eliminated. Nocturia and incontinence in older people can also cause volunteer fluid intake restrictions. Stopping fluid intake two hours before bedtime can partially solve this problem (6, 8, 14, 15).

*Tobacco cessation counselling.* It extends the lifetime expectancy of quitting only cigarettes and other tobacco products over the age of 65 between 1.4 and 2.0 years for men and 2.7 to 3.7 years for women. In addition, quitting the cigarette at any age can reduce 80-90 per cent of the damage to the cardiovascular health of victims of passive smoking (14). For this purpose, quitting tobacco products by means of interviews or drug treatment methods is supported by applying to the smoking cessation clinics and family physicians in the 2nd and 3rd step health units of the patients and their relatives (6, 16).

*Antioxidants.* Free radical damage is important in the pathophysiology of atherosclerosis, ischemia-reperfusion injury, Parkinson's disease, cataracts, certain cancers and rheumatoid arthritis. Findings suggest that antioxidant vitamins are protective in ischemic heart disease, cataracts and some cancers. Although theoretical knowledge and laboratory findings for most of these diseases support the effect of antioxidants, clinical findings do not confirm this (17). Additional beta-carotene intake is not recommended while the older people may take additional Vitamin E (100-400 mg/day) and Vitamin C (60-100 mg/day). There is a negative correlation between the levels of vitamin B and plasma homocysteine levels. The prevalence of hyperhomocysteinemia is 42 per cent in patients with cerebrovascular disease, 28 per cent in patients with peripheral vascular disease, and 30 per cent in those with cardiovascular disease. Vitamin B supplements may normalize high homocysteine levels; however, it is not clear whether normalcy homocysteine levels will correct cardiovascular mortality and morbidity. Daily recommended doses are 400 mcg/day for folic acid, 3 mcg/day for B12, 2.5-3 mg/day for B6 (5, 17).

*Aspirin.* It is known that the use of aspirin can significantly reduce mortality in patients at high risk for coronary artery disease seen in older ages. It has been determined through investigations that the age group that makes the most use of this benefit is between 70 and 84 years of age (14, 18). In this context, low-dose aspirin is recommended for men over the age of 40 and postmenopausal women and women who are smoking before the menopausal period or who are hypertensive or high in cholesterol (8, 11, 18).

*Exercise-Mobility.* ADL (activities of daily living) and IADL (instrumental activities of daily living) scoring should be done within the entire older people. Physical performance tests not only have a strong impact on the quality of life, but also on the morbidity and mortality (6, 8). It also offers high benefits against obesity and osteoporosis, which leads to many health problems in old age. It mainly increases bone density while reducing exercise, fall and fracture risk (19). In general, evidence-based research shows that aerobic exercises made three times a week for half an hour a week and in the same way twice a week the force exercises at an older age are extremely useful for health (8, 19).

*Injury prevention.* Older age makes it a risky group in home accidents, including falls and burns. The most important risk factors are; postural hypotension, drugs, vision and hearing loss, posture and gait disorders, mobility limitation, alcohol use, spiritual-mental and sleep disorders, pre-falling history and serious cardiovascular and/or neurological disorders. Changes to the home environment for falls and burns are necessary to prevent accidents. The results obtained from the initiatives are extremely positive (8, 11). Among these are measures such as smoothing the thresholds, using a system to prevent slippage in bathrooms and toilets, providing a wall support to hold up in the restrooms, attaching importance to night lighting, adjusting the hours given to diuretics that can cause older person to wake up during sleep, and precautions for the resolution of the sleeping problem (6, 8).

## Chronic diseases and cancer screening tests

One of the most important health problems in older people is chronic diseases and cancer. One of the most important protection strategies needed for developmental health problems is routine screening for early diagnosis. Screening tests are used for this purpose. Cancer screenings are recommended for the older people with life expectancy in the frontline.

*Hypertension.* According to the findings of *Turkey hypertension and prevalence study (Patent2)* conducted by the Turkish Hypertension and Kidney Disease Association in order to determine the frequency, awareness, treatment and control of hypertension in adults and the factors affecting them, the prevalence of hypertension in adults in Turkey is 30.3 per cent in 2012; 71.5 per cent for males aged 65 and over, and 84.4 per cent for females. In this study, it was determined that the age group in which the hypertension was most frequently observed was between the ages of 70-79 and that this ratio was 85.2 per cent (20). According to the Joint National Committee (JNC) (8). Hypertension Guidelines, normotensive subjects (systolic blood pressure <120 mmHg, diastolic blood pressure <80 mmHg) are monitored biennially by pre-hypertensive persons (systolic blood pressure 120-139 mmHg, diastolic blood 80-89 mmHg) is recommended following the annual blood pressure measurements (21). In Turkey, blood pressure measurement is recommended every two years in older people with optimal blood pressure (120-130 / 80-85 mmHg) and in high-normal (130-139 / 85-89 mmHg) ones at least once a year (8, 11, 22).

*Diabetes Mellitus.* The most extensive studies of the prevalence of diabetes in Turkey are the studies of *Turkey diabetes epidemiology study (TURDEP-I and TURDEP-II)*. According to these studies, the prevalence of diabetes in Turkish population in 2011 was found to be 13.7 per cent. Approximately 40 per cent of individuals identified as having diabetes is the individuals 60 years of age or older (23). Fasting plasma glucose, HbA1c measurement and / or oral glucose tolerance test are used for diabetes screening. Although the guidelines of the Turkish ministry of health recommends to initiate diabetes screening over the age of 45, The Association of Endocrinology and Metabolism of Turkey (TEMED) guideline is strictly recommending to start screening with the age of 40 (8, 11, 24). Therefore, diabetes mellitus screening with fasting plasma glucose is performed every 3 years in Turkey starting from 40 years old. Individuals at high risk for diabetes should be screened for diabetes from younger ages and more frequently. Those in the high-risk group for diabetes; Body Mass Index (BMI)  $\geq 25$  kg/m<sup>2</sup>, history of diabetes in first and second degree relatives, high prevalence of diabetes ethnic groups belonging to individuals, women who gave birth to big babies or women who were diagnosed with GDM, hypertensive individuals (blood pressure: BP  $\geq 140 / 90$  mmHg), dyslipidaemias (HDL-cholesterol  $\leq 35$  mg/dl or triglycerides  $\geq 250$  mg / dl), previously impaired glucose tolerance or impaired fasting glucose trait, women with polystic ovary syndrome, persons with clinical disease or findings related to insulin resistance (acanthosis nigricans), persons with coronary, peripheral, or cerebral vascular disease, persons with low birth weight, persons with low sedentary lifespan or low physical activity, persons with dietary habits rich in saturated fat and low fibre intake, persons with schizophrenia and antipsychotic medication, solid organ (especially renal) transplanted patients (24). The American Diabetes Association (ADA) recommends screening for all people aged 45 years

and older, especially those with body mass index  $> 25 \text{ kg/m}^2$  (25). The USPSTF recommends Type 2 diabetes screening for asymptomatic individuals aged 65 years and older who have a blood pressure of 135/80 (treated or not) or hypertension. Also, it is recommended screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese (18, 26).

*Dyslipidaemia.* In Turkey, the prevalence of dyslipidaemia is 33,4 per cent in males between 65-74 years, 52.5 per cent in females; 28.8 per cent for males and 46.1 per cent for females over 75 years of age (27). The methods used in the screening are total cholesterol, triglyceride, LDL-cholesterol, and HDL-cholesterol levels measured in fasting blood measurements. Cholesterol  $\geq 240 \text{ mg / dl}$ , LDL  $\geq 160 \text{ mg / dl}$ , triglycerides  $\geq 200 \text{ mg / dl}$ , HDL in men  $< 40 \text{ mg / dl}$ , and females  $< 50 \text{ mg / dl}$  indicate the presence of dyslipidemia. Proven cardiovascular disease, Type 2 diabetes, Hypertension, Chronic inflammatory disease, Chronic kidney disease, Smoking, BMI  $\geq 25 \text{ kg / m}^2$  or waist circumference  $\geq 90 \text{ cm}$  for men;  $\geq 80 \text{ cm}$  for women, a family of asymptomatic patients with no known disease should be screened for dyslipidemia at an early age (male  $< 55$  years female  $< 65$  years) with cardiovascular disease or very high cholesterol levels. The Ministry of Health recommends screening of individuals between the ages of 35 and 75 every five years (8, 10, 11). The Association of Endocrinology and Metabolism of Turkey (TEMED) recommends lipid profile screening once every 5 years from 20 years old, once every 1-2 years between 50-65 years, and once a year in individuals aged 65 years and above in people aged 20-50 years without risk factors (28). The USPSTF regularly recommends cholesterol measurement if there is an increased risk of cardiovascular disease in men over 35 years and in women over 45 years of age (18).

*Coronary heart disease.* Just like in the United States, it is the most common cause of death in adults in Turkey (7). Treatment to prevent coronary heart disease by modifying risk factors is now based on the Framingham risk model (18). Aspirin (80-325 mg / day) can be given as the primary prevention for those who have coronary artery disease risk factors. Before taking aspirin, however, some diseases and clinical conditions should be considered and evaluated by the physician (such as patients with GI or brain haemorrhage risk). In people who have proven coronary artery disease (myocardial infarction, positive coronary angiography) or who have cerebrovascular disease, lipid-lowering drugs are recommended as secondary prevention (5, 8). Abdominal Aortic Aneurysm: Abdominal aortic aneurysm is the cause of 1.5 per cent of deaths in people over 55 years of age. In order to reduce aneurysm-related deaths, diagnostic aneurysm should be performed without rupture and appropriate interventions should be performed. Because of the rarity of abdominal aortic aneurysm in women, the aneurysm has not been shown to benefit from scanning. In men, it has been shown that scans to be performed reduce the deaths associated with abdominal aortic aneurysm (29). The Turkish Ministry of Health and the USPSTF are recommending screening by ultrasonography at least once in men between the ages of 65 and 75 who have smoked during a period of their life (8, 11, 18). Breast cancer: Breast cancer is the most common cancer among women both in the world and Turkey (30, 31). The increasing frequency and frequency of breast cancer increases the importance of breast cancer because it can be diagnosed at an early stage and treated when diagnosed (32). The Turkish Ministry of Health recommends screening with mammography every two years in women aged 40-69 years and routine

clinical examination by a physician once a year (8, 11, 33, 34). In women aged 70 years or older, if there is no pathology that requires follow-up, the screening upon patient's request and cost effectiveness ratio should be planned. The main screening method should be mammography, and counseling should be provided to every woman after 20 years of age to make breast self-examination in order to raise awareness in the society. Clinical breast examination should be performed for every woman participating in the screening to increase the effectiveness of the mammography (8, 11). The USPSTF recommends screening of women aged 50-74 years with mammography every two years (18).

*Colorectal cancers.* Colorectal cancer, which causes serious morbidity and mortality in developed countries, is also an important health problem in Turkey (27, 30). Screening methods used for early detection of colorectal cancer are rectal examination, faecal occult blood test and colonoscopy. The Turkish Ministry of Health recommends to screen all people aged 50-70 years for faecal occult blood test every two years and colonoscopy every ten years (8, 11). Colonoscopy should be done, even if all tests of the scanned individuals are negative. The screening should be discontinued for women and men aged 70 years who are negative in the last two faecal occult blood tests (35). The American Cancer Society and American Society of Radiology recommends screening once a year for faecal occult blood testing, flexible sigmoidoscopy every 5 years, double contrast barium enema and CT colonography, and colonoscopy every 10 years starting at age 50 (36). The USPSTF recommends screening for faecal occult blood tests, sigmoidoscopy or colonoscopy for people between 50 and 75 years of age. Once a year, highly sensitive stool screening with faecal occult blood testing, sigmoidoscopy for every 5 years, high-precision faecal occult blood test for every 3 years, and screening colonoscopy for every 10 years is recommended (18).

*Cervical cancer.* Cervical cancer is a preventable disease. Screening with the Pap smear test allows early diagnosis and effective treatment. It should be screened with HPV test and Pap-smear test to be performed every five years in women aged 30-65 years. Pap-smear test should be taken at least once from all women in the age range of 30-40 years and should be repeated with five year intervals (8, 11). Screening should be discontinued in women aged 65 years who yield negative outcome for the last two HPV or Pap smear tests. Follow-up of patients who underwent total hysterectomy with benign gynaecologic causes (presence of CIN II and III, is not considered benign) is not necessary. In cases of hysterectomy due to 2CIN II and III; three documented (reportable), technically insufficient negative cytology, and no abnormal or positive results in the last 10 years (37). The USPSTF recommends screening of cytology with HPV every 5 years in women aged 30-65 years (18).

*Prostate cancer.* It is the most common cancer in men and digital rectal examination, PSA test and trans-rectal ultrasonography are recommended as the screening tests. Nowadays, the most important risky group is the individuals who are family stories and we suggest that they go through regular urological examination. In Turkey, it is suggested to apply rectal examination and PSA determination every year after age 50 years (8, 11). The USPSTF suggests that a significant percentage of men with asymptomatic cancer detected by PSA screening have convincing evidence that they have a tumour that cannot progress or slowly progress, and that the reduction in mortality is very small even for men aged 55-69 years (18).

*Osteoporosis.* Preserving the primer to prevent osteoporosis is to provide a healthy skeleton that contains maximum strength and mass during the base period of the youth. Excessive calcium intake up to 1000 mg / day, sun exposure, vitamin D intake and weight-bearing exercises against gravity increase bone mass (8). To reduce the rate of bone loss, the first step in secondary prevention is to distinguish between risky individuals. Bone density measurement can be detected early in asymptomatic women with osteoporosis risk factors or in men and women who have received glucocorticoid treatment. Dual Energy X-ray Absorptiometry (DEXA) method is used to measure bone mineral density (38). In Turkey, it is recommended that all individuals aged 65 years and older have biochemical tests (Ionized calcium, whole blood count, creatinine, alkaline phosphatase, TSH, 25-hydroxyvitamin D measurements and protein electrophoresis in vertebral fractures) once a year and that DEXA measurements should be made at least once in the lives of women aged 65 years and over and men aged 70 years and over (11, 39). The TEMD recommends screening for women who are younger and in the postmenopausal transition period and women aged 50-69 years who have clinical risk factors for fracture and adults who have fractures after the age of 50, bone disorders such as low bone mass or bone loss as well as rheumatoid arthritis or using glucocorticoids (daily > 5 mg prednisone or equivalent drugs > 3 months). The USPSTF recommends scanning with DEXA at least once for women over 65 years of age. Repetition of the test is done according to the opinion of the physician who follows the patient (18). Patients should be warned against lounging, sudden bending, and especially bearing loads when moving down the stairs to avoid pathological vertebral fractures, in order to be protected from pathological vertebra fractures, which is one of the major problems of older ages. Active measures include dietary vitamin D supplementation with sunlight, taking environmental precautions to prevent falls, mobilization and strengthening exercises, and HRT in selected cases (40).

*Dementia and depression.* Dementia and depression, which are increasing in frequency with the advancing age, are health problems that impose important adverse effects on the quality of life in advanced age (9, 10). The USPSTF found evidence that scanting in dementia was not beneficial and in the depression alone screening and feedback without staff-assisted care support did not improve clinical outcomes sufficiently in the older people (18); however, in Turkey at least once in the life of adults aged 65 years and older, a 'Multi-Lateral Geriatric Assessment' [Mini Mental Status Assessment Test, Yesavage Geriatric Depression Scale, Mini Nutritional Test, *Get Up And Walk* Test, Daily Life Activities Test (Lawton Brody Instrumental Daily Life Activity Scale Tests)] is recommended and, if possible, it is recommended that this assessment is to be repeated every five years (8, 11).

*Malnutrition.* Malnutrition is more common in the older people than in the general population (41). The most frequent cause of malnutrition in the older people is the presence of chronic disease in the developed countries and the nutritional status in the developing countries. Malnutrition may lead to secondary health problems such as memory loss, delay in wound healing, and pressure ulcers in individuals. For this reason, it is necessary to calculate the Body Mass Index (BMI) by performing nutritional screening, height and body weight measurement. BMI level between 18 and 20 indicates the possibility of malnutrition, while

that below 18 indicates definitive malnutrition (42). As a screening test, it is recommended to perform BMI measurement once a year. Older people who are malnourished should be evaluated in second-line health care facilities (8, 11).

*Obesity.* Hypertension, diabetes, hyperlipidaemia, coronary artery disease and cerebrovascular disease are more common in individuals developed obesity. In Turkey, the obesity rate of the older female population is 33.1 per cent, the obesity rate of the older male population is 16.2 per cent and it is estimated that the prevalence of obesity in society is about 25.0 per cent similar to the European countries (43). It is important to determine the presence of obesity in older people, especially in relation to cardiovascular diseases. BMI measurement is often used in obesity as well as in malnutrition. Only body weight can be used to monitor weight loss and assess the efficacy of treatment. People who are determined to have a risk of obesity or obesity by measuring waist circumference and BMI are recommended nutrition and physical activity to reduce energy intake. It is recommended for the individuals who are successfully lost weight to be subjected to health checks within the periods of 3 months. Individuals who are unsuccessful in weight loss should be directed to second-line health care (8, 10, 11).

*Hearing and vision test.* With increasing age, the risk of visual impairment and hearing loss increase along with the frequency thereof. For this reason, annual audiovisual assessment is recommended even if there are no complaints. Visual assessment can easily be done with the Snellen test. Hearing assessment can be done with the whisper test and history taking. Audiometric hearing tests should be performed only on those with hearing loss and tinnitus (11).

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