

1 eviri

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Gönderim Tarihi: 07-Tem-2023 12:24PM (UTC+0300)

Gönderim Numarası: 2127646192

Dosya adı: 1_eviri_NG.docx (33.27K)

Kelime sayısı: 4827

Karakter sayısı: 26228

Aging and Cardiovascular Diseases

Abstract

¹ Aging: It is a physiological period that includes the whole of the irreversible, functional and structural changes that occur over time at the system, tissue and cell level of the organism. Globally, the population aged 65 and over was 703 million in 2019, with the East and Southeast Asia region hosting the largest number of seniors (261 million). It is predicted that 80% of the elderly will live in middle- and low-income countries by 2050. While the population aged 65 and over in Turkey was 6 million 651 thousand 503 people in 2016, it increased by 24.0% in the last five years and reached 8 million 245 thousand 124 people in 2021. While the proportion of the elderly population in the total population was 8.3% in 2016, it increased to 9.7% in 2021. After the age of 60, there is an increase in fat ratio and a decrease in muscle weight, different in men and women. The decrease in joint flexibility, muscle mass and calcium level in the bones in the human body makes it difficult for the person to perform daily life activities. In a review published in 2016, it was stated that regular physical exercise reduces the risk of major cardiovascular and metabolic diseases, cognitive loss, obesity and falls in advanced age. The physical capacities of individuals decrease with age, which limits the functional independence of the elderly. According to the Centers for Disease Control and Prevention (CDC), noncommunicable diseases significantly restrict the activities of daily living of 39 percent of individuals aged 65 and over.

Keywords: Aging, cardiovascular diseases, chronic diseases

Introduction

¹ Aging: It is a physiological period that includes the whole of the irreversible, functional and structural changes that occur over time at the system, tissue and cell level of the organism. The aging process begins with birth, and all kinds of organisms age by undergoing many changes

from birth to death. Aging is not a constant process and varies between individuals. The last part of this process is called old age. The onset of old age reveals individual differences from society to society and even within the same society over the years, according to education level, gender, physiological and economic conditions, and psychological age (Aslan & Hocaoglu, 2017).

According to the World Health Organization (WHO), old age; It was expressed as increasing disability and being more dependent on others, and the old age limit was determined as 65 years. According to WHO, the scientific classification of old age is:

- Early (Young) Age: 65-74 years
- Middle Age: 75-84 years old
- Advanced Age: 85 years and above (Aslan and Hocaoglu, 2017).

The increase in the life process in the last century is one of the most important results of social progress. Some of the reasons that affect the progress of the life process are the mutual relations of factors such as technological and medical developments, increasing educational opportunities, healthy nutrition, and improving working conditions. Therefore, the fact that old age has become a social problem in societies is based on the progress that has emerged in the process of urbanization and industrialization. However, the increase in the ratio and number of elderly individuals in the total population also causes differentiation in the role and position of the elderly in society (Kalayci, 2015).

The words “old age” and “age”; It is expressed in sociological, psychological and biological dimensions and takes shape according to the principles and values put forward by the society. Old age is defined as “A person is as old as they feel, or as old as they think, even at the age at which their arteries are based”. The aging process, on the other hand, varies according to genetic

factors, the effect of diseases, the emotional state of the person, environmental conditions, ⁷ technological and scientific advances in the field of health (Kalaycı, 2015).

⁷ According to the World Health Organization, the term elderly; It is meant for people over the age of 65. But gerontology; He says that the aging process emerges from processes that are too complex to easily say that this person is old. According to Gerontology, old age is only a social design and designs can differ according to need and situation (Kalaycı, 2015).

The words "age" and "old age" are a natural process that contains different problems in terms of chronological, biological, social, cultural and historical aspects. A common definition of old age that is accepted by everyone has not been expressed. Old age is a word that refers to the subjective aspect that changes according to social development, age and region and differentiates according to the individual's psychological, social and health status (Kalaycı, 2015). The concept of aging, which is based on these changes by WHO, is a biological stage that occurs beyond the control of the person and his ability to adapt to environmental factors decreases (Kalaycı, 2015). ¹⁵ Old age is a normal period in which there are chronological, social and biological changes that include all of the irreversible changes in the mental and physiological states of people (Demir, 2017; Küçük and Karadeniz, 2021).

The concept of the elderly is expressed as the loss of the individual's physiological, psychological, physical and mental strength (Arpacı, 2016). Although the concept of old is used in the sense of "older", it also means an experienced or experienced, mature person in the society (Sevil, 2005). From the ancient times of history to the present, many definitions have been introduced to the concept of the elderly from different angles. However, from what age an individual will be described as "old" is among the topics discussed. Based on the statements of OECD (1992), when the word elderly is mentioned, it is understood that "people aged 65 and over, consisting of a heterogeneous group whose behaviors and needs change" (Cited by

Görgün Baran et al., 2005). While the United Nations expresses the age of 60 and over as old, many developed countries take the age of 65 as a reference. WHO chronologically defines people aged 65 and over as “elderly”. Since there is a consensus on the definition of elderly by the WHO with the chronological age variable, 65 years and over are defined as "elderly" (Şentürk, 2018; Uygun, 2022).

Today, ⁸ people aged 65 and over are categorized as “elderly” across the world. Accordingly, it is seen that first of all, the qualification of the elderly is realized on the basis of chronological age. In this context, there is a consensus on the definition of people who have left 65 years behind as old. However, chronological age does not ⁸ provide sufficient information for the definition of the elderly today. The age to be considered "old" in every period and society may differ, and the age at which this agreed "age" is may change over time and from society to society. This indicates that age is not only a chronological order, but also a cultural and social concept in this context (Görgün Baran et al., 2005; Uygun, 2022).

Senile; It is considered as one of the life periods of the individual such as infancy, childhood, adolescence and youth. It is seen as the synthesis of all periods throughout life. It is expressed ³⁹ as the last stage of human life and the advanced aging stage of the person (Kalınkara, 2016: 7-8). Aging is a form of being old in the word meaning, showing the actions of advanced age. In terms of biological functions, it is the transformation and change in the time period until death after reaching adult status (Şentürk, 2018; Uygun, 2022).

⁵ Old age is a period that indicates the differentiation of the mental and physical structure of the person and the decrease in the existing mental and physical capacities. It is also the period when the quality of life declines with the change in social and economic conditions. It refers to a period in which individuals lose their independence and experience losses in their living spaces. Thus, it is seen as a fixed and stagnant period of life in which individuals become dependent on their environment (İçli, 2016; Görgün Baran et al., 2005). Aging is generally accepted as a life

period in which problems such as cognitive and physical decline, abandonment of the productive role, loss of health, change in the social position of the individual, differentiation of interpersonal relations are experienced (İçli, 2016). However, although old age is perceived as a negative period due to some regressions, diseases, inadequacies and problems, it is actually related to how the previous periods of life were spent as a synthesis of other periods. For this reason, old age is not just a period of getting older, but a result of all life (Daşbaşı, 2020; Uygun, 2022). In the 25th World Health Council held by WHO in Geneva in 1972, a threshold was determined for the concept of "elderly" within the scope of the statistical targets, and people aged 65 and over were determined as elderly people (WHO, 1972).

7 Elderly Population in the World and in Turkey

Since the middle of the 21st century, the improvement in living standards along with the decrease in birth rate all over the world, especially in developed countries, causes the prolongation of human life and the rapid increase in the number of elderly individuals (Kalaycı, 2015).

According to WHO data, while people live longer today, every country in the world is experiencing a growth in the proportion of the elderly in the population. The population aging rate is much faster than in the past. The number and proportion of the population aged 60 and over is gradually increasing. The number of individuals aged 60 and over was 1 billion in 2019, and by 2030, 1 out of every 6 people in the world will be aged 60 and over (1.4 billion), and by 2050 the world population aged 60 and over will double (2.1 billion) is estimated. The number of individuals aged 80 and over is expected to triple between 2020 and 2050, reaching 426 million. This increase is occurring at an unprecedented rate and will accelerate in the coming decades, especially in developing countries (WHO, 2022).

Also globally, the population aged 65 and over in 2019 was 703 million, with the East and Southeast Asia region hosting the largest number of seniors (261 million). It is predicted that 80% of the elderly will live in middle- and low-income countries by 2050 (WHO, 2022).

While the population aged 65 and over in Turkey was 6 million 651 thousand 503 people in 2016, it increased by 24.0% in the last five years and reached 8 million 245 thousand 124 people in 2021. While the proportion of the elderly population in the total population was 8.3% in 2016, it increased to 9.7% in 2021. In 2021, 44.3% of the elderly population was male and 55.7% was female. According to population estimates, it is predicted that the proportion of the elderly population will be 11.0% in 2025, 12.9% in 2030, 16.3% in 2040, 22.6% in 2060 and 25.6% in 2080. When the elderly population is analyzed by age group, it is seen that 61.5% of the elderly population is in the 65-74 age group, 30.2% is in the 75-84 age group, and 8.2% is in the 85 and over age group. In 2021, 64.7% were in the 65-74 age group, 27.3% were in the 75-84 age group, and 8.0% were in the 85 and over age group. The fact that the proportion of the elderly population in the total population exceeds 10.0% indicates the aging of the population. The elderly population in Turkey has increased at a higher rate than the population in other age groups (TUIK, 2022).

In Turkey, which is in the process of "demographic transformation", which is called the global aging process, the age group of the population has changed with the decrease in the fertility and mortality rates, the developments in the field of health, the increase in the welfare level, life expectancy at birth and the standard of living. While the ratio of young people and children in the total population has decreased, the ratio of the elderly in the total population has increased. Although Turkey still has a young population structure compared to countries with a proportionally elderly population structure, the elderly population is considerably higher in numbers (TÜİK, 2022).

³⁸ The median age, which is one of the indicators giving information about the aging of the population, was 31.4 in 2016 and became 33.1 in 2021. ³ According to population estimates, the median age is expected to be 34.1 in 2025, 35.6 in 2030, 38.5 in 2040, 42.3 in 2060 and 45.0 in 2080 (TUIK, 2022).

⁷ While the elderly dependency ratio, which represents the number of elderly people per hundred people of working age, was 12.3% in 2016, this rate increased to 14.3% in 2021 (TÜİK, 2022). ¹⁷ According to population estimates, it is predicted that the level of elderly dependency will be 16.4% in 2025, 19.6% in 2030, 25.3% in 2040, 37.5% in 2060 and 43.6% in 2080 (TUIK, 2022). While ³ the first three countries with the highest proportion of elderly population were Monaco with 34.3%, Japan with 28.8% and Italy with 22.8%, Turkey ranked 68th among 167 countries (TUIK, 2022). According to the United Nations world population estimates, life expectancy at birth for the period 2020-2025 is 73.2 years, ³ 70.8 years for men and 75.6 years for women worldwide (TUIK, 2022).

⁴ In Turkey, in 2021, 6 million 112 thousand 760 out of a total of 25 million 329 thousand 833 ⁷ households have a minimum individual aged 65 and over, defined as the elderly population. In other words, it was seen that 24.1% of the households lived at least one elderly person. Elderly individuals living alone constitute ³ 1 million 561 thousand 398 of 6 million 112 thousand 760 ² households with at least one elderly person (TÜİK, 2022). The rate of illiteracy among the elderly population decreased from 20.8% in 2016 to 15.6% in 2020. The rate of illiterate elderly ² women was on average 5 times higher than the rate of older men in 2020 (TUIK, 2022). When ² the elderly population is analyzed by education level, the rate of those who graduated from primary school in 2020 is 46.1%, the rate of those who graduated from secondary school or equivalent school / primary school is 7.9%, the rate of those who graduated from high school or equivalent school ¹¹ is 8.0%. the rate of graduates is 7.4%. It has been observed that the ratio

of the elderly male population is higher than the elderly female population at all completed education levels (TÜİK, 2022).

According to the findings of the living conditions and income study, while the poverty rate was 21.2% for Turkey in 2016, it became 21.9% in 2020. While this rate was 16.0% in 2016 for the elderly population, it became 16.7% in 2020 (TUIK, 2022). According to the findings of the household information technologies usage study, while the rate of people aged 65-74 using the internet was 8.8% in 2016, this rate increased to 32.5% in 2021 (TUIK, 2022).

Physiological Changes Due to Aging

During the aging period, some changes occur in elderly individuals. These generally consist of psychological, physical, social and economic changes and affect the life of the elderly individual. In this context, when we look at the physiological changes, after the age of 60, there is an increase in fat ratio and a decrease in muscle weight, different in men and women. The decrease in joint flexibility, calcium level in bones and muscle mass in the human body makes it difficult for the person to perform daily life activities. For this reason, the level of physical activity of people decreases. Loss of muscles and bones causes an increase in the risk of fracture, shortening of the neck, tooth loss, thinning of the subcutaneous fat layer, humpbacks and curvatures in the legs. With aging, decreases occur in heart beat volume, heart function, oxygen consumption and beat rate (Kalaycı, 2015).

Hardening of the chest wall, loss of flexibility of the lung tissues and decrease in respiratory muscle strength cause changes in respiratory functions. The decrease in the effectiveness of insulin, which is important in the regulation of blood glucose, leads to "type 2" diabetes. Insulin resistance occurs as a result of an increase in adipose tissue and a decrease in physical activity. There is also a decrease in the metabolic rate of the brain. As a result of the decrease in basal metabolic rate, calorie requirement and total energy expenditure decrease. As a result of the

decrease in the flexibility of the lenses, loss of close focusing, decrease in depth perception, color discrimination and visual acuity occur in the eyes. Falls occur in unsafe environments, such as slippery floors, due to problems related to the nervous system, balance and vision in the elderly. In the elderly, injuries such as bone fractures, painful soft tissue damage and cerebral hemorrhage come to the fore as a result of falling. In old age, the proliferation of immune cells decreases and the body's resistance to micro-organisms decreases. Aging has no effect on the male and female reproductive systems. As a result of the decrease in hormone levels in older women, the ovaries and uterus become smaller in terms of their function and structure. Dryness and thinning of the vaginal tissue are noticeable. Nipple sensitivity decreases and breasts are hard. These changes experienced by women do not have a negative effect on sexual act. Although men's reproductive system changes also occur, they have the opportunity to have children until they die. In addition, as a result of the decrease in hormone production, changes in sperm quality and number, decrease in seminal fluid, shrinkage in testicles and penis and enlargement in prostate occur (Kalaycı, 2015).

Some age-related changes include a gradual decline in physiological aging-related function. With aging, physiological changes occur in senses such as gastrointestinal system, respiratory system, neurological system, cardiovascular system, excretory system, immune system, endocrine system, musculoskeletal system, vision, skin, taste, smell and hearing. Elderly people often have multiple chronic systemic diseases and are taking multiple medications. With age, psychomotor decline, loss of function in organs and tissues, and therefore, limitation in daily activities and increase in accident rates, more serious and frequent infections are expected conditions. These changes due to aging affect the daily life activity, addiction status, communication with the environment and working life of the individual (Ağar, 2020).

Physical and physiological changes that occur with aging cause failure in social relations due to depressive mood, deterioration in cognitive functions and limitation in daily living activities

(Demir, 2017; Karakuş, 2017; Küçük & Karadeniz, 2021). Physiological changes occur in many body systems during the aging process. These changes affect the individual's addiction status, communication with the environment, daily life and working life (Talarska et al., 2017; Küçük and Karadeniz, 2021).

Aging and Cardiovascular Diseases

³ According to TUIK death and cause of death statistics, 37.6% of the elderly who died in 2021 died due to circulatory system diseases. The cardiovascular system is the most important system that affects mortality and morbidity due to cell loss in the conduction and muscle system in old age. Depending on the genetic background and age, the heart's ability to pump blood decreases, the myocardium loses its flexibility, and the heart valves thicken and increase in diameter. Due to arteriosclerosis, the thickness of blood vessels increases while their elasticity decreases. Functional and structural changes in the cardiovascular system in old age increase the risk of coronary artery disease, heart diseases, heart failure, venous thrombosis and hypertension. Healthcare professionals should be aware of these physiological changes that ³⁷ affect the quality of life of elderly people (Özer, 2022).

²¹ With aging, some changes occur in the cardiovascular system without the presence of morbidity. With aging, ¹ cardiac output and stroke volume decrease and the risk of postural hypotension increases. The vessel walls thicken and decrease in their elasticity. With advancing age, a continuous rise in systolic blood pressure occurs as a result of the hardening of the vessels and the decrease in their elasticity. At the age of 60 and beyond, there is either ²⁶ a slight decrease or no change in diastolic blood pressure. With the accumulation of calcium minerals in the heart, the valves in the heart thicken and murmurs appear. With the decrease in the response to beta-adrenergic stimuli in smooth muscles, cardiac output also decreases during exercise (Özerkan, 2017; Açar, 2020). Important problems that can be seen as a result of physiological changes that occur with aging; heart failure, arrhythmia, and cardiac hypertrophy. In this

context; The risk of cardiovascular disease increases with the existence of other associations such as age-related diabetes, obesity and hypertension. With increasing age, ⁴⁰ heart failure, heart valve problems, arrhythmias and coronary artery diseases also increase. For this reason, there is a need to know the changes that occur with aging (Karadüz and Yurdalan, 2021).

Cardiovascular diseases ¹ are the leading cause of death in people aged 65 and over, and 80% of deaths from cardiovascular diseases occur in this age range. For this reason, ¹ it is important for healthcare professionals to interpret and understand the physiological changes that will reduce the quality of life in later life (Fleg & Strait, 2012). With age, stroke volume and cardiac output decrease ¹ and the risk of postural hypotension increases. The shadow of the heart is enlarged when looking at the chest X-ray. With aging, the elasticity of the vessel walls decreases and thickens. As a result of various calcifications in the heart, mitral and aortic valves are affected, causing sclerosis, murmurs and ¹ thickening of the heart valves. The response to beta-adrenergic stimulus ¹ in smooth muscles and thus cardiac output decreases during exercise.

Systolic blood pressure generally increases with advanced age, whereas diastolic blood pressure either tends to decrease slightly or does not change after 60 years of age. The main reason for this is the hardening of the arteries due to the loss of flexibility of the great arteries. An increase in systolic blood pressure can cause hypotension and impair left ventricular filling. Arrhythmias and ectopic beats are common, and the activity of baroreceptors decreases, vasoconstriction occurs in the lower extremity veins, and the adipose tissue around the heart increases. The blood flow to all organs decreases, the superficial veins of the skin become prominent and the veins dilate. A serious decrease in physical activity capacity due to aging, hypertension, atrial fibrillation, atherosclerosis, valve diseases, heart attack, venous thrombosis and heart failure occur. Appropriate exercises should be recommended to elderly people according to their physical capacities, and the elderly should stay away from extreme fatigue, stress and situations that cause tachycardia (Yıldız, 2010; Açar, 2020).

With aging, the number of cardiac output and cardiac beats decreases, the wall thickness increases, and the vessels lose their flexibility. The fat layer surrounding the heart increases and the heart valves lose their elasticity and become thicker. These changes, which occur with advancing age, significantly affect the function of the heart and create an environment for the development of non-communicable diseases. Congestive heart failure, hypertension, ischemic heart disease, coronary artery disease are common cardiovascular diseases in the elderly. Due to these problems, circulation decreases, weakness, fatigue, edema, oxygen deficiency and adaptation to different states become difficult (Biçer, 2017; Küçük and Karadeniz, 2021).

Studies on Aging and Cardiovascular Diseases

The physical capacities of individuals decrease with age, which limits the functional independence of the elderly (WHO, 2012). In a review published in 2016, it was stated that regular physical exercise reduces the risk of major cardiovascular and metabolic diseases, cognitive loss, falls and obesity in advanced age (McPhee, 2016). In a study conducted between November 2011 and July 2012 in elderly people living in 25 nursing homes affiliated to the Ministry of Family and Social Policies, hypertension (60.3%), cardiovascular diseases (34.3%), rheumatic diseases (29.8%) and diabetes mellitus (29.4%) was determined as the most common diseases (Ongan and Rakıcıoğlu, 2015; Turkey Elderly Health Report: Current Situation, Problems and Short-Medium-Term Solutions, 2021). According to the Center for Disease Control and Prevention (CDC), non-communicable diseases mainly restrict the daily activities of 39 percent of individuals aged 65 and over (Gauchard, 2001; Turkey Healthy Aging Action Plan and Implementation Program 2021-2026).

According to TBSA 2017 research data, high total cholesterol level (≥ 200 mg/dL) was determined in 42.2% of men aged 65 and over and 57.4% of women. HDL-C levels are low in 36.5% of men and 43.6% of women (male: < 40 mg/dL; female: < 50 mg/dL). High triglyceride levels in 15.1% of men and 17.2% of women (≥ 200 mg/dL); low-density lipoprotein cholesterol

(LDL-C) levels were found to be high (≥ 130 mg/dL) in 28.7% of men and 27.8% of women. High HbA1c levels (≥ 6.5 mg/dL) were found in 23.2% of men and 23.7% of women. 23.6% of men and 28.7% of women had diabetes; 48.2% of men and 65.4% of women declared that they were diagnosed with cardiovascular disease. The frequency of high fasting blood glucose (≥ 126 mg/dL) and impaired fasting glucose (110-125 mg/dL) was in 21.3% and 25.3% of men and 17.0% and 27.1% of women, respectively. (Turkey Elderly Health Report: Current Situation, Problems And Short-Medium-Term Solutions, 2021).

According to the Global Physical Activity Survey (GPAQ), 43.2% of the 60-69 age group (female: 55.6%; male: 29.7%) in TBSA 2017 data; 64.5% (female: 77.3%; male: 47.1%) of the age group 70 and over met recommended conditions [150 minutes of moderate or 75 minutes of vigorous-intensity work per week or at least 600 metabolic equivalent work (METs) per minute) level of high and moderate physical activity] (Turkey Elderly Health Report: Current Situation, Problems and Short-Medium-Term Solutions, 2021).

Malnutrition in the elderly leads to deterioration of general health status and an increased risk of non-communicable diseases, especially cardiovascular diseases and sarcopenia. Nutrition is a key factor in the aging process; it helps to maintain and protect health and reduce the risk of non-communicable diseases (Corcoran et al., 2019; Turkey Elderly Health Report: Current Situation, Problems and Short-Medium-Term Solutions, 2021).

Conclusion

With aging, some changes occur in the cardiovascular system, and as a result of these changes, the risk of cardiovascular disease increases. Cardiovascular diseases are one of the leading causes of death in the elderly. Therefore, necessary precautions should be taken to reduce the risk of developing these diseases. Excess weight, a life without physical activity, unhealthy diet, etc. conditions that increase the risk of cardiovascular disease. Providing weight control,

encouraging physical activity, gaining adequate fluid intake and healthy eating habits, preventing smoking and alcohol use, avoiding stress, ensuring the correct use of drugs, etc. These are important practices in preventing ⁴¹ the risk of cardiovascular disease and the progression of the existing disease.

Unhealthy nutrition and resulting obesity cause ⁵ the formation of nutrition-related non-communicable ¹¹ diseases (cancer, cardiovascular diseases, osteoporosis, diabetes, etc.) (Turkey Healthy Aging Action Plan and Implementation Program 2021-2026). Studies have shown that physical exercise; It has been shown that it reduces ²³ the risk of developing type 2 diabetes and having a heart attack by 50 percent, and that this significant reduction may also be valid for some cancer diseases and high blood pressure (WHO, 2009). (Türkiye ¹¹ Healthy Aging Action Plan and Implementation Program 2021-2026).

References

- Ağar, A. (2020). Yaşlılarda ortaya çıkan fizyolojik değişiklikler. *Ordu Üniversitesi Hemşirelik Çalışmaları Dergisi*, 3(3), 347-354.
- Aslan, M., & Hocoğlu, Ç. (2017). Yaşlanma ve yaşlanma dönemiyle ilişkili psikiyatrik sorunlar. *Düzce Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi*, 7(1), 53-62.
- Gauchard GC, Jeandel C, Perrin PP. Physical and Sporting Activities Improve Vestibular Afferent Usage and Balance in Elderly Human Subjects. *Gerontol*, 2001; 47: 263-270.
- Kalaycı, I. (2015). Yaşlılık Statüsü, Rollerini Açısından Yaşlıların Toplumsal Beklentileri Ve Sorunları (Isparta Örneği) (Doktora Tezi)
- Küçük, U., & Karadeniz, H. (2021). Yaşlanmaya bağlı bireylerde görülen fizyolojik, ruhsal, sosyal değişiklikler ve korunmaya yönelik önlemler. *Yaşlı Sorunları Araştırma Dergisi*, 14(2), 96-103.

McPhee JS, French DP, Jackson D, Nazroo J, Pendleton N, Degens H. Physical activity in older age: perspectives for healthy ageing and frailty. *Biogerontology*. 2016;17(3):567-580. doi:10.1007/s10522-016-9641-0

Ongan D, Rakıciođlu N. Nutritional status and dietary intake of institutionalized elderly in Turkey: a cross-sectional, multi-center, country representative study. *Arch Gerontol Geriatr*. 2015;61(2):271-6. doi: 10.1016/j.archger.2015.05.004.

Özer, H.H. Hemşirelik Öğrencilerinin Yaşlı Bireylere Yönelik Tutumları İle Merhamet Düzeyi Ve Etkileyen Faktörler Arasındaki İlişkinin İncelenmesi (Yüksek Lisans Tezi).

Türkiye Yaşlı Sağlığı Raporu: Güncel Durum, Sorunlar Ve Kısa-Orta Vadeli Çözümler, 2021.

TBSA (Türkiye Beslenme ve Sağlık Araştırması-2017). T.C. Sağlık Bakanlığı Halk Sağlığı Genel Müdürlüğü, Yayın No: 1132, Ankara, 2019. ISBN:978-975-590-722-2. Erişim: https://hsgm.saglik.gov.tr/depo/birimler/saglikli-beslenme-hareketli-hayat-db/Yayinlar/kitaplar/TBSA_RAPOR_KITAP_20.08.pdf.

TÜİK. (2022). İstatistiklerle Yaşlılar, 2021. <https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Yaslilar-2021-45636>

TÜİK. (2021). Ölüm ve Ölüm Nedeni İstatistikleri. <https://data.tuik.gov.tr/Bulten/Index?p=%C3%961%C3%BCm-ve-%C3%961%C3%BCm-Nedeni-%C4%B0statistikleri-2021-45715&dil=1>

Türkiye Sağlıklı Yaşlanma Eylem Planı Ve Uygulama Programı 2021-2026.

Uygun, M.Ö. (2022). Yalnız Yaşayan Yaşlı Kadınların Gündelik Hayat Deneyimleri Ve Başa Çıkma Stratejileri: Çorum İli Örneği (Yüksek Lisans Tezi).

WHO. Active Ageing Good Health Adds Lefe to Years: Policies and Priority Interventions for Healthy Ageing. WHO Regional Office for Europe. 2012. Copenhagen, World Health Organization

WHO. Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks. 2009. Geneva, World Health Organisation.

WHO. (2022). <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>

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medicalresearch.com

İnternet Kaynağı

<% 1

24

personalcare.averydennison.com

İnternet Kaynağı

<% 1

25

Azza Mehanna. "Healthy Ageing: Reviewing the Challenges, Opportunities, and Efforts to Promote Health Among Old People", Journal of High Institute of Public Health, 2022

Yayın

<% 1

26

P.L. Painter, D. Messer, C. Widener, S.W. Zimmerman. "Response to Graded Exercise Testing in Patients Treated with CAPD", Peritoneal Dialysis International: Journal of the International Society for Peritoneal Dialysis, 2020

Yayın

<% 1

27

circ.ahajournals.org

İnternet Kaynağı

<% 1

28

www.aquafairy.com.tw

İnternet Kaynağı

<% 1

29

Felipe Mendes Delpino, Ana Paula Maciel de Lima, Bruna Gonçalves Cordeiro da Silva,

<% 1

Bruno Pereira Nunes et al. "Physical Activity and Multimorbidity Among Community-Dwelling Older Adults: A Systematic Review With Meta-Analysis", American Journal of Health Promotion, 2022

Yayın

30

ijphs.iaescore.com

İnternet Kaynağı

<% 1

31

patents.google.com

İnternet Kaynağı

<% 1

32

www.memesita.com

İnternet Kaynağı

<% 1

33

zaguan.unizar.es

İnternet Kaynağı

<% 1

34

Hutchinson, Emma, Kovats, Sari. "EBOOK: Environment, Health and Sustainable Development", EBOOK: Environment, Health and Sustainable Development, 2017

Yayın

<% 1

35

Mackenbach, Johan, McKee, Martin. "EBOOK: Successes and Failures of Health Policy in Europe: Four decades of divergent trends and converging challenges", EBOOK: Successes and Failures of Health Policy in Europe: Four decades of divergent trends and converging challenges, 2013

Yayın

<% 1

36	a.storyblok.com İnternet Kaynađı	<% 1
37	acikkaynak.bilecik.edu.tr İnternet Kaynađı	<% 1
38	link.springer.com İnternet Kaynađı	<% 1
39	openaccess.hacettepe.edu.tr:8080 İnternet Kaynađı	<% 1
40	www.ehow.com İnternet Kaynađı	<% 1
41	www.frontiersin.org İnternet Kaynađı	<% 1
42	www.scribd.com İnternet Kaynađı	<% 1

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zerinde

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Bibliyografyayı ıkart

zerinde