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RESEARCH

CHANGES IN THE HOUSEHOLD STRUCTURES OF THE ELDERLY: HOUSEHOLD PROJECTIONS FOR TURKEY, 2016–2050

ABSTRACT

Introduction: The main objective of this study was to analyze the current household patterns of the elderly in Turkey and project in what kinds of households the elderly will live in the future.

Materials and Method: The household structure of the elderly population was analyzed using tabulated data from Turkey's Address-Based Population Registration System, for the first time ever. Household projections were produced according to the headship rate method.

Results: The percentage of households with elderly persons will continuously increase, from 22.5% in 2016 to approximately 41% in 2050. The presence of elderly in all household types will continuously increase during that period, except extended-family households. While in 2016 9.9% of nuclear families lived with at least one elderly person, by 2050 this percentage will have risen to 19.6%. One-person elderly households will also continuously increase, from 5.4% in 2016 to 14.7% in 2050.

Conclusion: The elderly population in Turkey will mostly live in one-family households in the future, as is the case at present, but there will be an increase in the number of elderly living in one-person households. In 2050, about 15% of all households in Turkey will be one-person elderly households. The elderly will steadily move from co-residence lifestyles to single-resident lifestyles. The views expressed in this paper are those of the author and do not necessarily represent the official views of the Turkish Statistical Institute.

Keywords: Aged; Family characteristics; Demography; Life style

ARAŞTIRMA

YAŞLI BİREYLERİN HANEHALKI YAPISINDAKİ DEĞİŞİM: TÜRKİYE İÇİN HANEHALKI PROJEKSİYONLARI, 2016-2050

Öz

Giriş: Bu çalışmanın temel amacı Türkiye'de yaşlı nüfusun günümüzde yaşadığı hane halkı yapısının tespit edilmesi ve bu yapı ve değişimden yola çıkarak gelecekte yaşlı bireylerin ne tip hane halkı kompozisyonlarında yaşayacaklarının tespit edilmesi amacıyla hane halkı projeksiyonlarının üretilmesidir.

Gereç ve Yöntem: Yaşlı nüfusun hane halkı yapısı, Adrese Dayalı Nüfus Kayıt Sisteminin sonuçları kullanılarak ilk kez analiz edildi ve hane halkı projeksiyonları, hane halkı reisliği hızı yöntemi kullanılarak üretildi.

Bulgular: 2016 yılında %22.5 olan yaşlı birey içeren hane halkı oranı 2050 yılında sürekli bir artış ile %41'e ulaşacaktır. Hane halkı türündeki değişimi incelediğimizde, yaşlı hane halkları, 2016-2050 döneminde geniş-aile hane halkı tipi dışındaki tüm hane halkı türlerinde sürekli artmaktadır. En az bir yaşlı birey içeren çekirdek aile oranı 2016 yılında %9.9 iken bu oran 2050 yılında %19.6 olacaktır. Tek kişilik yaşlı hane halkı oranı da benzer şekilde sürekli bir artış göstererek 2016-2050 döneminde %5.4'ten %14.7'ye ulaşacaktır.

Sonuç: Yaşlılar Türkiye'de bugün olduğu gibi gelecekte de büyük oranda çekirdek hanelerde yaşayacak ve tek kişilik hane halklarında yaşayan yaşlı nüfus oranında da bir artış meydana gelecektir. 2050 yılında Türkiye'deki toplam hane halkının yaklaşık %15'i tek kişilik yaşlı hane halklarından oluşacaktır. Sonuç olarak, Türkiye'de yaşlıların birlikte yaşam biçiminden tek başına yaşam biçimine geçme eğilimde oldukları görülmektedir. Çalışmada ifade edilen görüşler tamamen yazara ait olup Türkiye İstatistik Kurumunu bağlamaz.

Anahtar sözcükler: Yaşlı; Aile özellikleri; Demografi; Yaşam tarzı

INTRODUCTION

One of the important demographic changes that characterize the early decades of the 21st century is the increasing aging of the human population. Both the number and proportion of people aged 65 years and older are growing, although at different rates in different parts of the world.

Turkey is undergoing a demographic transformation, like many parts of the world. Even though the proportion of elderly in Turkey is small, and other indicators of aging suggest that the age structure of Turkey is still relatively young when compared with the populations of developed countries, the increase in the elderly population in absolute numbers is significant, and the number of older adults is equal to the total populations of some small European countries. One of the major reasons for the aging of the Turkish population is the continuous decline in the total fertility rate, which is also being observed in developed countries. Another reason is the increase in longevity due to the declining mortality rate. In Turkey, life expectancy at birth is 78 years; 75.3 years for men and 80.7 years for women, according to the Turkish Statistical Institute (TurkStat) 2016 Life Table. If the current trends of demographic indicators persist, the Turkish population will continue aging. While the proportion of elderly in the total population was 7.7% in 2013, it reached 8.5% in 2017, and is expected to reach 10.2% in 2023 (1).

Due to the continuously increasing elderly proportion, it is necessary to examine the elderly's needs and concerns to understand how to care for them. The changes in the proportion of the older population, and its size, have profound implications for families. As the population gets older, in society the family performs the function of a buffer that aims to decrease the social and economic impact of population aging. In particular, demographic aging changes both household structure and household size.

In most developing countries, it is assumed that family, as an informal care institution, will continue their traditional role of taking care of the elderly. This approach or view causes the states in those countries to be inactive toward aging issues. Similarly, in Turkey, it is often assumed that households' members or relatives will automatically take on the responsibility of caring for the elderly. However, the traditional family is changing due to modernization, industrialization, and individualism (2,3). Even if there are still strong family ties in Turkey, this familial solidarity is affected by social, economic and demographic changes due to especially transformation from an agricultural to an industrial society and urbanization. Parent-child coresidence is not a norm in contemporary Turkey and adult children prefer to live nearby older family members and to have privacy while maintaining close family ties. Individuals in metropolitan areas might exchange with having "intimacy at a distance" by living nearby. From this perspective, nuclear families can be interpreted as acting functionally extended families (4-6).

In Turkey, the proportion of elders who want to coresidence with his/her children was 40.2%, the proportion of elders desiring to get home care service was 38.6% and the proportion of elders desiring to go nursing home was 7.7% according to the Family Structure Survey in 2016. The most important reason for desiring to stay in the nursing home of elderly individuals was that they do not want to be a burden on his/her children with 48.9%. The second important reason was that facilities in nursing home are more comfortable with 20.2% and the third important reason was that his/her children might not like to coresidence with them with 11.2% (7).

The Ministry of Family and Social Policy is the central institution for proposing, adopting, coordinating and improving social policies regarding older people at national level in

Turkey. In the "2017-2020 Active Aging Strategy Document" by the Ministry, the policies on aging were proposed mainly in the field of care and rehabilitation services. According to the records of the Ministry, in accordance with the Law No. 2022 on the "Providing Old-Age Assistance to Poor, Weakness and Homeless Turkish Republic People who Completed 65 Years Old" the number of beneficiaries who were found to be in need was 620.019, while the proportion was 9.3% in total elderly population in 2016 (7). Although this law seems to provide social protection to elderly, many of old persons cannot reach these salaries and other economical supports due to bureaucratic formalities. The average annual amount of benefit made per the elderly was 2 thousand 548 TL. This amount of salary is not too enough to provide a decent live for the elderly (8).

In 2017, the proportion of old people residing in institutional places is 0.4% in Turkey. This proportion shows us the insufficiency of the number of care facilities to meet the institutional care needs of old people. Due to inadequate formal care services, the unsatisfactory informal caring services have expanded continuously. It is obvious that the number of the older people grows rapidly in Turkey, elderly care needs will increase in the future. Therefore, the policies regarding old people institutional and especially home-based care in Turkey need to be adopted to provide decent lives for the elderly (8,9).

In the light of above mentioned facts, the main objective of this study was to analyze current household patterns in Turkey and project in what kinds of households older-aged people will live in the future, using tabulated data from Turkey's Address-Based Population Registration System (ABPRS). This study produced household projections for the 2020–2050 period, using the extrapolative headship rate household projection method.

MATERIALS AND METHOD

The main tabulated data on family and household typologies used by this study related to household types and were produced by TurkStat using information from Turkey's Central Civil Registration System and ABPRS for the years 2014, 2015, and 2016 (Table 1). Tabulated data was obtained by official data request to TurkStat Data Dissemination Group. For the first time, in May 2016, TurkStat produced and published statistics on household types, officially based on the administrative registers for both the country and its provinces.

These definitions and classifications of household types were adopted in line with international standards. "Household" refers to a person living alone, or a group of persons living at the same address, with or without any kind of kinship. The concept of "household-dwelling" was used as the method.

Headship rates were projected for four household types: one-person households, one-family (nuclear) households, extended-family households, and multi-person households without nuclear families. "One-person household" means a household that consists of a person living alone. Types of "nuclear families" can be grouped as follows: couples without resident children, couples with at least one resident child, and lone parents with at least one resident child. While "extended-family households" cover multi-family households, or at least one nuclear family with non-family member(s), "multi-person households without nuclear families" cover households whose members are not related to each other, as couples or as parent and child.

Generally, household and family projections are used to plan housing and building, the development of public utilities, and the production and distribution of consumer durables for which the units of consumption are households rather than individuals. Specifically, some concern has been

centered on the future growth of the number of families, the number of married couples, and the distribution of families by type (nuclear, patriarchal, etc.).

Although several types of household projection models have been developed over the past few decades (10), most existing household forecasts are based on a headship rate approach (static macro-demographic models). If basic population projections by sex and age are adequate, these can provide a reasonably accurate picture of the future number and composition of households. However, this method cannot take into account the dynamic aspects of household formation, growth, contraction, and dissolution (11,12).

There are some methodological advantages to the headship rate method of household projections over other methods. The headship rate method is based on the assumption that the number of households is equivalent to the number of heads of households (13):

$$h(i, j, t) = \frac{H(i,j,t)}{P(i,j,t)} \quad \text{(Equation 1)}$$

The formula for projecting the number of households may be presented as follows. Suppose that for year t + x (x years from the base year), population projections by sex and age have already been prepared, and the (sex) - age headship rates

*(Number of households)=(number of heads of households)=(total population) * (headship rate)*

The initial number of households and populations were categorized by head of household age. In this study, the oldest member of the household was assumed to be the head of the household. Studies have shown that the oldest member of the family, irrespective of their sex, is commonly declared the head of the household. Age is an important determining factor when declaring a household's head in Turkey.

To clarify the headship rate method, it may be useful to express the steps using an algebraic equation. Let P(i,j,t) be the population of sex i and age j at time t, and let H(i,j,t) be the number of heads of households or families by sex i, age j, and time t. Then, the headship rate specific for sex and age, at time t, h(i,j,t) is expressed using the following formula:

have been prepared using Equation 1, and the headship rates by age have been estimated, then the number of households for the year t + x can be obtained using the following equation:

Total number of future households in year t+x

$$\sum_i \sum_j H(i, j, t + x) = \sum_i \sum_j P(i, j, t + x) \times h(i, j, t + x) \quad \text{(Equation 2)}$$

In this study, an extrapolative method was used to produce household and family projections.

$$h(i, j, t + x) = 1 - [1 - h(i, j, t - n)] \times \left[\frac{1 - h(i,j,t)}{1 - h(i,j,t-n)}\right]^{\frac{(t+x)-(t-n)}{n}} \quad \text{(Equation 3)}$$

This method implies that headship rates in all age groups will continue to rise indefinitely but at a gradually diminishing pace. In some cases, it is

possible to observe certain age groups showing decreases. However, the application of that formula to these age groups yields decreases in headship

rates at a rather accelerating pace, which is clearly in opposition to the purpose of this study. Accordingly, for these age groups, the following formula is used:

$$h(i, j, t + x) = h(i, j, t - n)[\frac{h(i,j,t)}{h(i,j,t-n)}]^{\frac{[(t+x)-(t-n)]}{n}}$$ (Equation 4)

Non-institutional population projections are required to make household/family projections. To make a non-institutional population projection, a total of more than 15 non-institutional populations included in the "Household Labor Force Statistics" published by TurkStat and the age distributions of the non-institutional populations obtained for the purposes of the author's PhD thesis calculations were used.

RESULTS

Four main family types were organized under subheadings, and these subheadings were analyzed as to whether they included individuals 65 years of age and over.

According to 2016 ABPRS data, while the proportion of one-family households in Turkey was 67.4% in 2014, one-family households comprised 66.4% of all households in Turkey in 2016. Extended-family households, which cover multi-family households or at least one nuclear family with non-family member(s), comprised 16.3% of all households in 2016. The proportions of one-person households and multi-person households without nuclear families were 14.9% and 2.4%, respectively, in 2016 (Table 1).

Table 1. Household types in Turkey, including elderly persons.

Type of households	Households without elderly			Households with elderly			Total		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
One-person households	8.8	9.1	9.6	5.1	5.3	5.4	13.9	14.4	14.9
One-family households (nuclear family)	57.8	57.1	56.5	9.6	9.9	9.9	67.4	66.9	66.4
Extended-family households	9.6	9.6	9.5	7.1	6.9	6.7	16.7	16.5	16.3
Multi-person households without nuclear families	1.7	1.8	1.9	0.4	0.4	0.5	2.1	2.2	2.4
Total	77.9	77.5	77.5	22.1	22.5	22.5	100.0	100.0	100.0

Source: TurkStat; Available from http://www.tuik.gov.tr/PreHaberBultenleri.do?id=24646 and http://www.tuik.gov.tr/PreHaberBultenleri.do?id=24644 Accessed:12.09.2017.

There was at least one elderly person in 22.5% of all households in Turkey in 2016 (Table 1). In other words, one of every five households in Turkey included at least one elderly person. While 6.7% of households with elderly persons in 2016 were extended-family households, 9.9% of one-family (nuclear) households had elderly persons. The third type of household in which elderly persons lived was the one-person elderly household, type take place with a percentage of 5.4%.

While the above-mentioned rates were computed, two separate formulas exclusive to increases and decreases were utilized, to consider the variations in the years 2014–2016 (Annex 1). By using these computed headship rates and non-institutional population distributions, the distribution of household numbers was obtained (Table 3).

The household type percentages obtained using the headship rate extrapolative method are summarized in Table 2. According to the results of this study, the percentage of households with elderly persons will continuously increase, from 22.5% in 2016 to approximately 41.0% in 2050 (Table 2 and Figure 2). In Turkey, four of every ten households will be "elderly households" in 2050, based on current demographic conditions.

Table 2. Projected percentages of household types by year.

Years	One-person households		One-family households (nuclear family)		Extended-family households		Multi-person households without nuclear families		Total households	
	with elderly	without elderly	with elderly	without elderly	with elderly	without elderly	with elderly	without elderly	with elderly	without elderly
2016	5,4	9,6	9,9	56,5	6,7	9,5	0,5	1,9	22,5	77,5
2020	6,1	11,0	11,1	53,2	6,4	9,1	0,6	2,5	24,2	75,8
2025	7,2	12,5	12,3	49,5	5,8	8,7	0,9	3,1	26,2	73,8
2030	8,6	13,5	14,0	45,4	5,5	8,1	1,1	3,6	29,3	70,7
2035	9,9	14,6	15,0	42,2	5,0	7,7	1,4	4,1	31,4	68,6
2040	11,5	15,3	16,5	38,8	4,7	7,2	1,7	4,5	34,3	65,7
2045	13,1	15,7	18,1	35,4	4,3	6,6	2,1	4,7	37,6	62,4
2050	14,7	15,9	19,6	32,4	3,9	6,2	2,4	5,0	40,6	59,4

While a share of nuclear family and extended-family households show a continuous decline, a continuous increase in one-person and multi-person households will be observed during the 2016–2050 period (Figure 1). The percentages of extended-family and nuclear family households will decrease to 10% and 52%, respectively, in 2050. According to the results of the projections, the percentage of one-person households will reach 30.6% in 2050, a two-fold increase over a 35-year period (Table 2 and Figure 1).
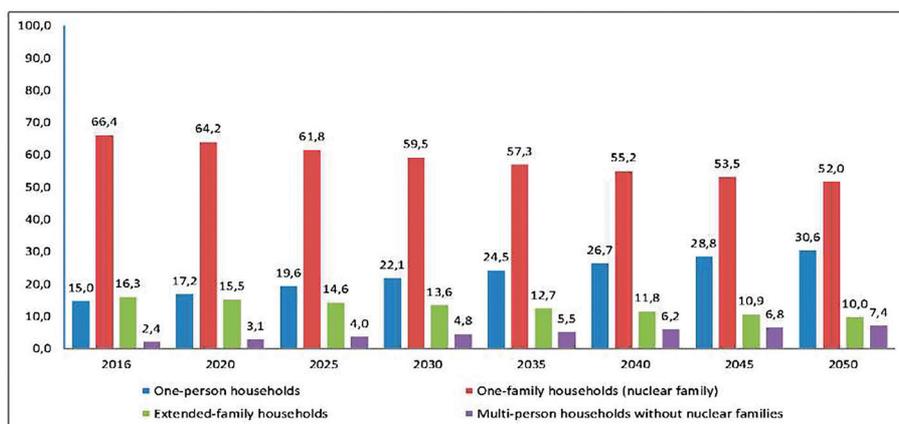

Figure 1. Percentage distributions of household types in Turkey, 2016–2050.

When household types with elderly persons are considered (Table 2 and Figure 2), households that include at least one elderly person will continuously increase during the 2016–2050 period, across all household types, except extended-family households. While the percentage of nuclear families with at least one elderly person was 9.9% in 2016, this percentage will be about 19.6% in 2050. One-person elderly households will also continuously increase during the 2016–2050 period, from 5.4% to 14.7%. The percentage of extended-family households with elderly persons will decrease, from 6.7% in 2016 to 3.9% in 2050.
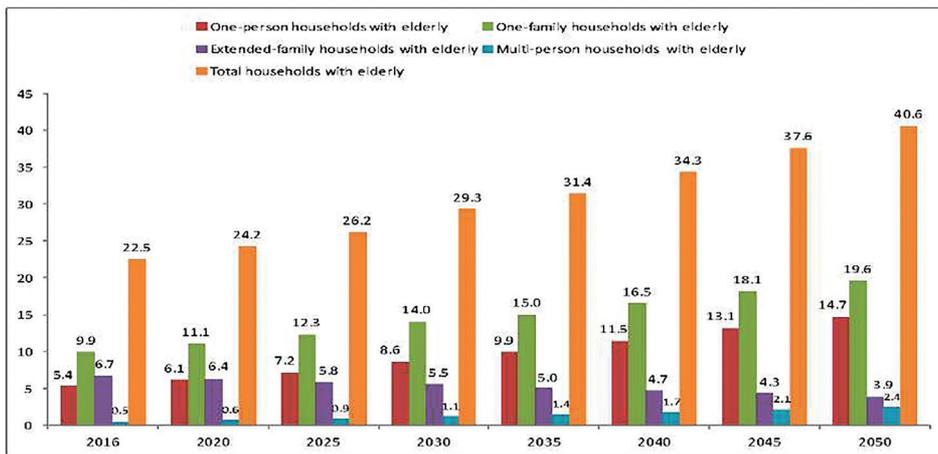

Figure 2. Percentage distributions of elderly households, 2016–2050.

Figure 3 shows the changes in household numbers during the 2016–2050 periods. According to the results of this study, the number of households in Turkey will approximately double between 2016 and 2050 -from 22 million to 41 million- and household growth will outpace population growth during every decade within this period.
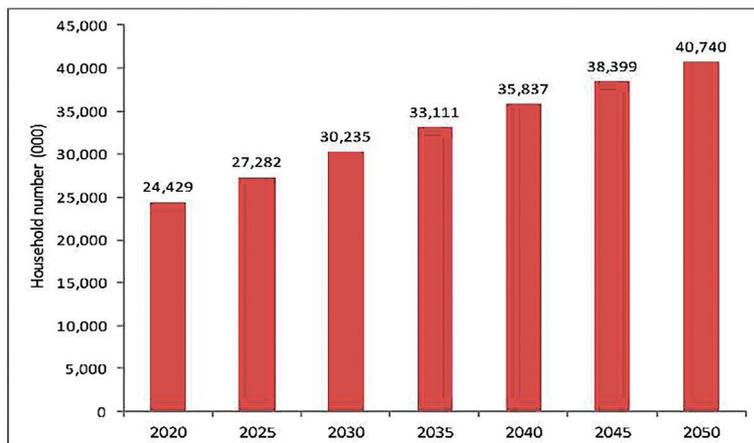

Figure 3. Projected household numbers in Turkey, 2020–2050.

Despite continuous increases in both the number of households and the number of people in Turkey, it can be observed that the average household size has decreased from 5.7 persons in 1955, and will continue to decrease between the present day and 2050, to 2.3 persons (Figure 4).

Table 3. Distribution of household numbers, according to the extrapolative headship rate method, 2020–2050.

	Household numbers - 2020				
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families	Total households
<65	2,691,587	12,990,400	2,224,028	612,568	18,518,583
65-69	362,828	1,074,864	476,249	48,150	1,962,090
70-74	357,378	767,967	375,645	37,513	1,538,503
75-79	308,451	451,599	285,696	27,880	1,073,627
80+	469,958	408,801	415,451	41,518	1,335,728
Total	4,190,201	15,693,632	3,777,070	767,628	24,428,531

	Household numbers - 2025				
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families	Total households
<65	3,403,527	13,509,359	2,380,614	853,535	20,147,035
65-69	436,129	1,218,966	462,107	70,950	2,188,152
70-74	481,267	1,032,784	400,100	60,129	1,974,279
75-79	433,133	619,416	321,327	44,715	1,418,591
80+	606,437	483,198	407,274	56,816	1,553,725
Total	5,360,494	16,863,724	3,971,421	1,086,144	27,281,782

	Household numbers - 2030				
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families	Total households
<65	4,090,924	13,739,667	2,443,788	1,102,566	21,376,945
65-69	589,503	1,563,450	507,394	111,097	2,771,444
70-74	567,833	1,215,686	374,835	81,049	2,239,403
75-79	591,814	828,998	353,689	67,793	1,842,294
80+	849,821	630,595	441,276	83,676	2,005,368
Total	6,689,895	17,978,398	4,120,981	1,446,181	30,235,455

	Household numbers - 2035				
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families	Total households
<65	4,826,620	13,976,732	2,549,944	1,363,588	22,716,885
65-69	613,610	1,551,786	431,353	129,412	2,726,162
70-74	756,778	1,615,103	398,047	120,115	2,890,043
75-79	704,176	968,413	340,713	87,767	2,101,069
80+	1,211,491	847,856	493,057	124,614	2,677,018
Total	8,112,676	18,959,890	4,213,115	1,825,495	33,111,176

	Household numbers - 2040				
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families	Total households
<65	5,467,857	13,889,947	2,578,212	1,606,809	23,542,825
65-69	790,401	1,914,014	455,938	182,309	3,342,662
70-74	777,193	1,652,371	326,728	134,592	2,890,884
75-79	948,761	1,283,466	373,264	126,873	2,732,364
80+	1,587,965	1,058,601	512,054	169,906	3,328,526
Total	9,572,177	19,798,398	4,246,197	2,220,489	35,837,261

	Household numbers - 2045				
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families	Total households
<65	6,011,638	13,574,556	2,551,425	1,823,860	23,961,478
65-69	936,566	2,179,558	445,141	232,454	3,793,719
70-74	990,309	2,096,350	333,677	184,534	3,604,870
75-79	981,980	1,308,841	315,332	139,432	2,745,585
80+	2,137,208	1,367,988	550,863	237,119	4,293,177
Total	11,057,701	20,527,292	4,196,438	2,617,399	38,398,829

|	Household numbers - 2050				
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families	Total households
<65	6,497,626	13,189,518	2,506,391	2,023,735	24,217,270
65-69	1,025,430	2,300,606	403,032	270,623	3,999,691
70-74	1,163,549	2,451,319	315,011	230,840	4,160,719
75-79	1,261,554	1,659,012	331,772	188,691	3,441,028
80+	2,535,583	1,568,466	526,214	291,003	4,921,266
Total	12,483,741	21,168,922	4,082,420	3,004,892	40,739,975
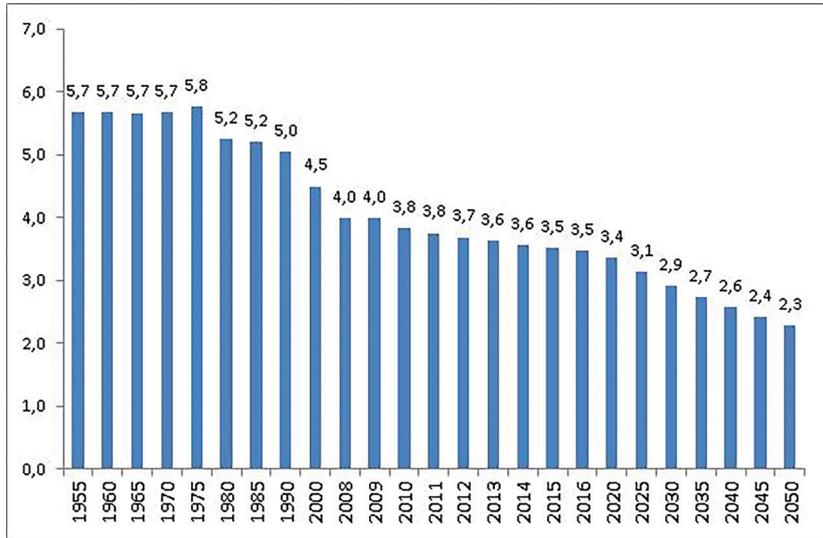
Figure 4. Changes in average household size in Turkey, by total population.

DISCUSSION

In this study, the living arrangements of elderly persons in Turkey have been investigated for the first time, using ABPRS tabulated data. As mentioned in introduction section, main purpose of this study to produce household projection for old people for the first time by using statistics from administrative registers in Turkey in order to raise awareness to living arrangements that is one of the key issues of elderly. It is obvious that there are strong effects of gender, educational level, regional difference, urbanization, religion and financial power of elderly on their living arrangements. There are many studies that include sociological and demographic models in order to examine the effects of these variables on living arrangements. While these studies have maintained their validity even though they were done in the beginning of 2000s, they didn't include any information about long term projection and change in household types. In the light of this study, alternative household projections can be produced in the future according to educational level, gender or urban-rural residential status of the reference person.

In the majority of developing countries, like Turkey, family members are trusted to meet the needs of and care for the elderly. However, families in Turkey are changing; traditional, complex family structures are eroding, and the average household size is decreasing. Changes that occur in the population dynamics affect the family and household structures in the society. The most common household type in Turkey is the one-family (nuclear) household. This study shows that while nuclear households are still common, they will be less common future than they are today, and one-person households will show a significant increase compared with the other household types. The results of this study are compatible with those of other studies that have used DHS data and census records (14-20).

In 2016, one of every five households in Turkey included at least one elderly person. This number will be two of every five households in 2050. The elderly will mostly live in one-family households in the future, as is the case at present, and there will be an increase in the number of elderly persons living in one-person households. Moreover, about 15% of households in Turkey will be one-person

elderly households in 2050. It is expected that a significant number of this households will comprise females. This study's argument is justified by related observations and field studies (18-20).

Theoretically, the composition of households in a country is similar to the size of the households in that country. According to the results of this study, the increase in single-person households and multi-homeless households with no nuclear family, and the decrease in the number of nuclear families and large family households, seem to be consistent with the declines in fertility and average household size in Turkey. In a study carried out by Bongaarts (21), it was determined that countries with relatively older populations tend to have smaller household structures. The decrease that has taken place in respect to fertility in industrialized countries in the 20th century is the main driving force behind the decrease that has taken place in average household sizes in Europe and North America. According to the author (21), the second reason for the decrease in household size is the decrease in the number of adults per household. It is stated that this decrease reflects the transition from the traditional, very complex household structure to the simpler, nuclear household structure in contemporary industrialized communities. The results of this study also show that the same situation is observable in Turkey and that despite continuous increases in both the number of households and people in Turkey, the average household size will decrease.

According to convergence theory, households tend to be less extended, more nuclear, and of smaller average sizes, as societies are industrialized and urbanization rates are increasing. Goode (22) foresaw the convergence of family systems around the world to be the conjugal type: *"Wherever the economic system expands through industrialization family patterns change. Extended kinship ties weaken, lineage patterns dissolve, and a trend toward some form of the conjugal system generally begins to appear – that is, nuclear family becomes*

a more independent kinship unit." According to Goode, the most important indicator of this transition is the weakening of ties with older generations. In commenting on the "weakening of the ties", Goode is referring to the lack of support for the elderly financially and physically, their lack of social interaction, and their increasing tendency to live separately. The same trend was also experienced during the industrialization process of European and North American societies. During the 150-year period 1850–2000, the average household size was dropped from 4 to 6 members to 2 to 3 members (21,22). In those countries, the nuclear family household type is now dominant. Demographic indicators show that the population in Turkey has also entered into this phase of aging. This study has projected the aged population structure after 2030, and its findings relating to the changes in household structures during that time and smaller household sizes are compatible with the results of the above-mentioned study and convergence theory.

In light of the findings of this study, it can be concluded that the elderly in Turkey will steadily move from co-residence lifestyles to single-resident lifestyles and that this transition tends to take away family support in the long-term care of the aging family member (23). In addition, long-term care needs and services are wide-ranging and complex. Under these conditions, the traditional methods that were employed to meet the needs of elderly family members will be insufficient, and the public services provided to this group in Turkey will be increasingly important and in need of intensification. In addition to these, as stated in the 10th Development Plan of Turkey, an effective home care system must be encouraged and supported. There is higher representation of older women in Turkey who are more dependent to another individual and institution from social, economic, cultural and legal point of views (24). In this context, variables such as gender and marital status that will cause fragility should also be taken into account in the policies of elderly care.

Annex 1. Headship rates according to the extrapolative method of the household headship rates.

	Household headship rates of 2020					Household headship rates of 2025			
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families	Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families
15-19	0.0024	0.0007	0.0000	0.0004	15-19	0.0010	0.0009	0.0000	0.0001
20-24	0.0444	0.0242	0.0010	0.0086	20-24	0.0517	0.0285	0.0013	0.0089
25-29	0.0642	0.1283	0.0075	0.0152	25-29	0.0790	0.1344	0.0084	0.0180
30-34	0.0514	0.2312	0.0175	0.0142	30-34	0.0642	0.2207	0.0188	0.0191
35-39	0.0438	0.2932	0.0318	0.0115	35-39	0.0533	0.2684	0.0382	0.0159
40-44	0.0448	0.3457	0.0433	0.0116	40-44	0.0564	0.3265	0.0520	0.0167
45-49	0.0493	0.3734	0.0529	0.0125	45-49	0.0618	0.3632	0.0552	0.0182
50-54	0.0542	0.3713	0.0779	0.0119	50-54	0.0653	0.3663	0.0706	0.0167
55-59	0.0710	0.3699	0.1042	0.0140	55-59	0.0838	0.3729	0.0875	0.0198
60-64	0.0895	0.3582	0.1389	0.0138	60-64	0.0999	0.3556	0.1223	0.0184
65-69	0.1230	0.3645	0.1615	0.0163	65-69	0.1329	0.3715	0.1408	0.0216
70-74	0.1708	0.3670	0.1795	0.0179	70-74	0.1811	0.3887	0.1506	0.0226
75-79	0.2315	0.3390	0.2145	0.0209	75-79	0.2480	0.3547	0.1840	0.0256
80+	0.3198	0.2781	0.2827	0.0282	80+	0.3588	0.2859	0.2410	0.0336

	Household headship rates of 2030					Household headship rates of 2035			
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families	Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families
15-19	0.0004	0.0010	0.0000	0.0000	15-19	0.0002	0.0012	0.0000	0.0000
20-24	0.0588	0.0328	0.0016	0.0092	20-24	0.0660	0.0371	0.0019	0.0095
25-29	0.0937	0.1406	0.0093	0.0207	25-29	0.1081	0.1467	0.0102	0.0234
30-34	0.0769	0.2107	0.0201	0.0239	30-34	0.0895	0.2012	0.0214	0.0288
35-39	0.0628	0.2456	0.0445	0.0202	35-39	0.0721	0.2248	0.0508	0.0244
40-44	0.0679	0.3083	0.0607	0.0218	40-44	0.0792	0.2912	0.0693	0.0269
45-49	0.0741	0.3533	0.0575	0.0239	45-49	0.0863	0.3437	0.0598	0.0296
50-54	0.0763	0.3614	0.0639	0.0214	50-54	0.0872	0.3566	0.0578	0.0262
55-59	0.0965	0.3758	0.0735	0.0256	55-59	0.1090	0.3788	0.0617	0.0313
60-64	0.1102	0.3530	0.1077	0.0230	60-64	0.1203	0.3504	0.0948	0.0275
65-69	0.1427	0.3784	0.1228	0.0269	65-69	0.1523	0.3852	0.1071	0.0321
70-74	0.1913	0.4096	0.1263	0.0273	70-74	0.2014	0.4298	0.1059	0.0320
75-79	0.2642	0.3700	0.1579	0.0303	75-79	0.2800	0.3850	0.1355	0.0349
80+	0.3957	0.2936	0.2055	0.0390	80+	0.4304	0.3012	0.1752	0.0443

	Household headship rates of 2040					Household headship rates of 2045			
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families	Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families
15-19	0.0001	0.0013	0.0000	0.0000	15-19	0.0000	0.0014	0.0000	0.0000
20-24	0.0731	0.0413	0.0022	0.0098	20-24	0.0801	0.0456	0.0025	0.0101
25-29	0.1222	0.1528	0.0111	0.0261	25-29	0.1362	0.1588	0.0120	0.0288
30-34	0.1018	0.1921	0.0227	0.0336	30-34	0.1140	0.1834	0.0240	0.0384
35-39	0.0814	0.2057	0.0570	0.0287	35-39	0.0905	0.1883	0.0632	0.0330
40-44	0.0904	0.2750	0.0778	0.0319	40-44	0.1014	0.2597	0.0862	0.0369
45-49	0.0983	0.3343	0.0620	0.0352	45-49	0.1101	0.3252	0.0643	0.0408
50-54	0.0980	0.3518	0.0524	0.0309	50-54	0.1086	0.3471	0.0474	0.0356
55-59	0.1213	0.3817	0.0518	0.0370	55-59	0.1335	0.3846	0.0435	0.0426
60-64	0.1304	0.3478	0.0835	0.0321	60-64	0.1403	0.3453	0.0736	0.0366
65-69	0.1619	0.3919	0.0934	0.0373	65-69	0.1713	0.3986	0.0814	0.0425
70-74	0.2113	0.4493	0.0888	0.0366	70-74	0.2211	0.4681	0.0745	0.0412
75-79	0.2954	0.3996	0.1162	0.0395	75-79	0.3105	0.4139	0.0997	0.0441
80+	0.4631	0.3087	0.1493	0.0496	80+	0.4940	0.3162	0.1273	0.0548

	Household headship rates of 2050			
Age of head	One-person households	One-family households (nuclear family)	Extended-family households	Multi-person households without nuclear families
15-19	0.0000	0.0016	0.0000	0.0000
20-24	0.0870	0.0498	0.0028	0.0104
25-29	0.1499	0.1648	0.0129	0.0315
30-34	0.1261	0.1750	0.0253	0.0431
35-39	0.0996	0.1723	0.0694	0.0372
40-44	0.1124	0.2453	0.0945	0.0419
45-49	0.1218	0.3163	0.0666	0.0464
50-54	0.1191	0.3425	0.0429	0.0402
55-59	0.1454	0.3875	0.0365	0.0483
60-64	0.1502	0.3427	0.0648	0.0411
65-69	0.1806	0.4052	0.0710	0.0477
70-74	0.2308	0.4863	0.0625	0.0458
75-79	0.3253	0.4278	0.0856	0.0487
80+	0.5231	0.3236	0.1086	0.0600

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