



## EVALUATION OF DIETARY, EXERCISE AND MEDICATION-USE HABITS OF THE ELDERLY IN THE CITY OF YALOVA WITH RESPECT TO THEIR SOCIODEMOGRAPHIC CHARACTERISTICS<sup>1</sup>

**Yrd. Doç. Dr. Harun CEYLAN**

Kyrgyz Turkish Manas University  
Yalova University  
*harun.ceylan@ktmu.edu.tr*  
*hrceylan@gmail.com*

**Zeynep ÇATALBAŞ**

Yalova GOP Family Health Center  
*zeynecatalbas@gmail.com*

### Abstract

In this study, we evaluated the relationship among the sociodemographic characteristics of individuals aged  $\geq 65$  years who consulted a Family Health Centre in Turkey and their dietary, exercise and medication-use habits. This study aimed to find out the nutrition, medication-use, and exercise habits of the elderly in Turkey and whether demographic characteristics have any impact on their dietary, medication-use, and exercise habits.

A 34-item questionnaire was used as a data-collection tool, and body mass index was calculated as an indicator of dietary and exercise habits. Sociodemographic characteristics were independent variables, and dietary habits, physical exercise routines, medication-use habits were dependent variables.

Four hundred elderly individuals (208 women, 52%; 192 men, 48%) voluntarily participated in the study. Among them, 270 (67.4%) were in the 65–74-year age group, 279 (69.8%) were married, and 197 (49.2%) were elementary-school graduates. One hundred eighty-two participants (45.5%) were housewives, 192 (48%) were retired, and 294 (73.5%) did not follow a diet plan. One hundred four participants (26%) were Grade-I overweight, 30 (7.5%) were Grade-II overweight, and 3 (0.8%) were morbidly obese. Approximately 70% participants experienced ageing-related changes in their eating habits. One hundred ninety-two participants (48%) undertook physical exercise and sports. Women more frequently had chronic disease (92.3% women vs. 85.9% men), and chronic diseases were the least common among university graduates. Three hundred thirty-five participants with a chronic disease (83.3%) took their medication regularly.

Some sociodemographic characteristics of the elderly showed relationships with dietary, exercise, and medication-use habits.

**Key Words:** Old age, Nutrition, Medication Use, Exercise

### YALOVA İLİNDEKİ YAŞLILARIN BESLENME, EGZERSİZ VE İLAÇ KULLANIMI ALIŞKANLIKLARININ SOSYODEMOGRAFİK ÖZELLİKLERİ AÇISINDAN DEĞERLENDİRİLMESİ

### Özet

<sup>1</sup> Bu makalede kullanılan veriler “Yaşlılarda Beslenme, İlaç Kullanımı ve Egzersiz Alışkanlıklarının Başarılı ve Sağlıklı Yaşlanma Açısından Değerlendirilmesi” adlı Yalova Üniversitesi BAP projesinden alınmış ve makalenin özeti 5-8 Ekim 2017 tarihlerinde Bodrum’da gerçekleştirilen “Uluslararası Eğitim ve Değerler Sempozyumu’nda (ISOEVA) sunulmuştur.

Bu çalışma da Aile Sağlığı Merkezine başvuran 65 yaş üstü yaşlıların sosyodemografik özellikleri ile beslenme, egzersiz ve ilaç kullanımı alışkanlıkları arasındaki ilişki değerlendirilmiştir. Araştırmada yaşlıların beslenme, ilaç kullanımı ve egzersiz yapma durumları nedir? ve yaşlıların beslenme ve ilaç kullanımı alışkanlıkları ile egzersiz yapma alışkanlıkları arasında sosyodemografik özelliklerin etkisi var mıdır? sorularına cevap aranmıştır.

Aile Sağlığı Merkezine başvuran 208'i kadın, 192'si erkek olmak üzere toplam 400 yaşlı birey gönüllülük esasıyla araştırmaya dâhil edilmiştir. Veri toplama aracı olarak 34 soruluk anket formu kullanılmış, yaşlıların beslenme alışkanlıklarını görmek için boy ve kiloları da öğrenilerek Beden Kitle İndeksleri (BKE) hesaplanmıştır. Yaşlıların sosyodemografik özellikleri bağımsız değişkeni oluştururken, beslenme alışkanlığı, egzersiz yapma durumları ve ilaç kullanımı alışkanlıkları bağımlı değişkeni oluşturmaktadır.

Araştırmaya 208'i (% 52) kadın, 192'si (% 48) erkek olmak üzere toplam 400 yaşlı katılmıştır. Araştırma grubunun 270'ini 65-74 (% 67,4) yaş grubundaki yaşlılar oluşturmaktadır. Yaşlıların 279'u (% 69,8) evli, 197 (% 49,2) yaşlı ise ilkökul mezunudur. Katılımcıların 182'si (%45,5) ev hanımı, 192'si (%48) emeklidir ve 294 (%73,5) yaşlı hiçbir diyet programı uygulamamaktadır. Katılımcıların 104'ü (%26) I. Derecede şişman, 30'u (%7,5) II. Derece şişman, 3'ü (%0,8) morbid şişmandır. Yaşlıların %70'inin beslenme alışkanlığında yaşlılığa bağlı olarak değişim yaşandığı görülmüştür. 192 (%48) yaşlı fiziksel egzersiz ve spor yaparken, 208'i (%52) ise fiziksel egzersiz ve spor yapmamaktadır. Kronik hastalığı olan kadınların (%92,3) oranı erkeklerden (%85,9) daha yüksek iken, en az kronik hastalık üniversite mezunları arasındadır. Kronik hastalığı olan yaşlıların 335'i (% 83,3) ilaçlarını düzenli kullanmaktadır.

Yaşlıların bazı sosyodemografik özellikleri ile beslenme, egzersiz ve ilaç kullanımı alışkanlıkları arasında ilişki olduğu saptanmıştır.

**Anahtar Kelimeler:** Yaşlılık, Beslenme, İlaç Kullanımı, Egzersiz.

## Introduction

Along with modernisation, the changes in production and consumption patterns, rapid urbanisation, and migration phenomena have radically transformed the lifestyles and habits of individuals. In addition, increased prevalence of birth control methods through advances in medicine and technology, extension of lifespan, and the concept of migration have led to significant changes in the demographic structure of societies. This has subsequently resulted in an increase in the elderly population within the general population, and the global population is now ageing rapidly.

The ageing of the population along with the changes in social life has brought about significant consequences regarding issues directly related to society and the prosperity of the elderly, including life practices and problems of elderly individuals and services provided for them. Indeed, because the majority of the population in developed and developing countries consists of the elderly, the pressure on the social security system and budget allocated for healthcare and social services for the elderly reflects, directly or indirectly, on all areas of social policy (Ceylan ve Öksüz, 2015: 459).

The present study aimed to measure the awareness of the elderly on successful and healthy ageing by evaluating the relationship between their sociodemographic characteristics and dietary, physical exercise, and medication-use habits, which are signs of a healthy life. This way, it will be possible to collect basic sociological data for macro-scale social policies

needed for community health and elderly services based on the awareness of the elderly on healthy and successful ageing.

Within this scope, this study presents the statistical analysis of responses to 34-item questionnaire filled in by 400 elderly individuals aged  $\geq 65$  years who consulted a Family Health Centre (FHC) in Yalova, and it aimed to find out *the nutrition, medication-use, and exercise habits of the elderly in Turkey and whether demographic characteristics have any impact on their dietary, medication-use, and exercise habits.*

## Method

This study includes data collected through one-on-one interviews, conducted personally by the researchers and healthcare staff. Permissions for the study were obtained from Yalova Public Health Directorate on June 09, 2016. The study included a total of 400 elderly individuals (208 women and 192 men) aged  $>65$  years, who had participated in “The Evaluation of Diet, Physical Exercise, and Drug Use in the Elderly with regard to Successful and Healthy Ageing” project, participated as a Scientific Research Project at Yalova University, and applied to one of the eight Family Health Centres in Yalova province (Gaziosmanpaşa FHC, Gazi FHC, Fuat Zilelioğlu FHC, Kazım Karabekir FHC, Fevzi Çakmak FHC, Bahçelievler FHC, Süleymanbey FHC, TOKİ FHC).

A 34-item questionnaire covering sociodemographic characteristics, dietary habits, physical exercise routines, and medication-use habits of the participants was used as the data-collection instrument, and the body mass index (BMI) of participants was calculated using their height and weight measurements. The survey consisted of three components aiming to measure the relationship among the sociodemographic characteristics of the participants and their dietary habits, consciously medication-use, and physical exercise habits. The data obtained were analysed using SPSS 16 for Windows.

## Results

A total of 400 elderly individuals participated in the study; 208 were women (52%) and 192 were men (48%). Two hundred seventy participants (67.4%) were in the 65–74-year age group. Two hundred seventy-nine participants (69.8%) were married, and 197 (49.2%) were elementary-school graduates. One hundred eighty-two participants (45.5%) were housewives, 192 (48%) were retired, and 294 (73.5%) did not follow a diet plan. Two participants (0.5%) had no health insurance while the remaining 398 (99.5%) had insurance (Table 1).

**Table 1:** Sociodemographic characteristics of the elderly

<b>Gender</b>	<b>Number of persons</b>	<b>Percentage (%)</b>
Woman	208	52
Man	192	48
<b>Total</b>	<b>400</b>	<b>100</b>

  

<b>Age (years)</b>	<b>Number of persons</b>	<b>Percentage (%)</b>
65–69	153	38.2
70–74	117	29.2
75–79	82	20.5
80–84	37	9.2
85–89	9	2.2
90+	2	0.5
<b>Total</b>	<b>400</b>	<b>100</b>

  

<b>Marital status</b>	<b>Number of persons</b>	<b>Percentage (%)</b>
Single	2	0.5
Married	279	69.8
Divorced	13	3.2
Widow	106	26.5
<b>Total</b>	<b>400</b>	<b>100</b>

  

<b>Educational status</b>	<b>Number of persons</b>	<b>Percentage (%)</b>
Illiterate	64	16
Literate	50	12.5
Elementary school	197	49.2
Middle school	37	9.2
High school	28	7
University	24	6
<b>Total</b>	<b>400</b>	<b>100</b>

  

<b>Occupational status</b>	<b>Number of persons</b>	<b>Percentage (%)</b>
Housewife	182	45.5
Public official	2	0.5
Independent business	13	3.2
Retired	192	48
Worker	5	1.2
Other	6	1.5
<b>Total</b>	<b>400</b>	<b>100</b>

BMI values of the participants showed that 72% of the participants aged  $\geq 65$  years were overweight. According to BMI values, 20% of the participants were at normal weight (18.5–24.9 kg/m<sup>2</sup>), 37.8% were overweight (25.0–29.9 kg/m<sup>2</sup>), 26% were Grade-1 overweight (30.0–34.9 kg/m<sup>2</sup>), 7.5% were Grade-II overweight (35.0–39.9 kg/m<sup>2</sup>), and 0.8% were morbidly obese ( $\geq 40$  kg/m<sup>2</sup>). Three participants (0.8%) were undernourished (protein–energy malnutrition).

According to these results, it appears that three-fourths of the participants were overweight. Moreover, out of 304 participants who thought they ate healthily (76%), 113

individuals (37.2%) were mildly overweight, and 80 (26.3%) were Grade-I overweight. Two hundred ninety-four of the participants (73.5%) did not follow a diet plan. Among participants who did not follow a diet plan, 114 (38.8%) were mildly overweight, and 78 (26.5%) were in Grade-I overweight. Eighty-nine men (46.4%) and 62 women (29.8%) were mildly overweight while Grade-I (W: 28.8%; M: 22.9%) and Grade-II (W:11.1%; M: 3.6%) overweight status were more common in women than men. Although there were no morbidly obese men, three women (1.4%) were morbidly obese. Two morbidly obese women (3.1%) were illiterate and the remaining one (2.7%) was a secondary-school graduate.

Two hundred eighty participants stated that their dietary habits had changed because of ageing (70%); 139 (34.8%) stated that they could not eat everything they wanted because of an illness, 81 (20.2%) had decreased appetite, 32 (8%) had increased appetite, 20 (5%) did not enjoy their meal, and six (1.5%) did not want to eat because they were lonely. One hundred twenty participants (30%) stated that they had no ageing-related changes in dietary habits.

Although 16 participants (4%) were dependent someone else for activities of daily living, 340 (85%) were completely independent and 44 (11%) were partially dependent. Although 192 participants (48%) participated in physical exercise and sports, 208 (52%) were not involved in physical exercise and sports. Approximately 62% of those who did not perform any physical exercise were women. The most common exercise was going for a walk outside. One hundred forty-four individuals (36%) preferred going for a walk outside as an exercise. This rate was 50.5% in men and 22.6% in women. Among those performing some exercise, 21 (30%) performed exercise every day, 57 (14%) 1–2 times a week, 15 (3.8%) once a week, and two (0.5) once a month. One hundred ten participants (27.5%) stated that they had been exercising since their youth, and 81 stated that (20.2%) they did not exercise when they were young but they did now. Out of 192 participants performing some exercise, 110 (57.3%) were primary-school graduates. The number of university graduates among those who exercised was 14 (7.3%). Fifty-seven participants (14.2%) stated that they did not exercise because they felt tired, 42 (10.5) of them had pain, 29 (7.2%) did not have time, and 20 (5%) had health problems preventing them from exercising.

The results indicate that 357 of the participants (89.2%) had a chronic disease. Approximately 92% women and 85.9% men had a chronic disease. Among those who had a chronic disease, 198 (49.5%) had hypertension, 56 (14%) suffered from diabetes, 21 (5.2%) had COPD, 20 (5%) had osteoporosis, 12 (3%) had cancer, and six (1.5%) had a vision or hearing problem. Of the 357 participants with a chronic disease, 176 (49.3%) were primary-

school graduates. The group with the fewest chronic diseases was university graduates with 20 (5.6%) participants.

Three hundred thirty-five participants (83.8%) stated that they took their medication regularly, 25 (6.2%) did not take their medication regularly, and 40 (10%) did not answer related questions because they did not have a chronic disease. One hundred seventy-eight participants who regularly took their medication (53.1%) lived with their spouses. The largest group among those who did/could not take their medication regularly was composed of 11 participants who were living alone (44%). This was followed by the group of 10 participants who lived with their spouses (40%). Three individuals who did not take their medication regularly lived with their children (12%) and one (4%) lived with his/her spouse and children. One hundred thirty-four of the participants (33.5%) took  $\geq 5$  medications, 56 (14%) took 4 medications, 64 (16%) took 3 medications, 69 (17.2%) took 2 medications, and 37 (9.2%) took 1 medication.

Forty participants (10%) were smokers, 275 (68.8%) had never smoked, and 85 (21.2%) were past smokers. Likewise, nine participants (2.2%) consumed alcohol, 355 (88.8%) stated that they had never used alcohol, and 36 (9%) stated that they used to use alcohol in the past, but they no longer used it. In addition, 311 of the participants (77.8%) believed that their past habits of exercise, diet, and medication use had an impact on their current condition, 89 participants (22.2%) thought that their past lifestyle preferences did not have any impact on their current health condition.

### **Discussion**

According to the data by the Turkish Statistical Institute, 8.3% of the Turkish population consists of elderly people aged  $\geq 65$  years as of December 2016 (Türkiye İstatistik Kurumu, 2017). This rate, which is increasing every year, is expected to be 10.2% in 2023, 20.8% in 2050, and 27.7% in 2075 (Türkiye İstatistik Kurumu, 2013).

It is clear that there is a need for studies to identify lifestyle preferences, eating habits, exercise routines, and medication-use habits of elderly individuals, whose percentages in the general population are increasing with each passing day. That is because conscious and regular food intake, exercise, and medication use are important for experiencing a healthy ageing period.

The study was consistent with the literature indicating that the dietary habits of the elderly largely involved bread and grain products (Pekcan ve Marcheish, 2001'den akt.: Sağlık Bakanlığı, Türkiye Beslenme ve Sağlık Araştırması, 2010 ), which has an important

place in the traditional dietary habits in Turkey. Three-fourths of the participants were overweight. This situation is likely a consequence of a sedentary lifestyle and a bread/cereal-based diet. It is also possible to say that the elderly people do not have a sufficient level of awareness in terms of a healthy diet. This is because 73.5% of the elderly did not follow a diet plan; 38% of these people were mildly overweight, and 26.5% of them were Grade-I overweight. According to the results of Turkey Health Survey 2014 conducted by the Turkish Statistical Institute covering all age groups, the overweight rate in all age groups was 19.9% (Turkish Statistical Institute. Turkey Health Survey 2014). This shows that the rate of obesity is higher in old age compared to other age groups, considering that 72% of the study participants were overweight.

In addition, the results show that obesity was more prevalent among women than among men. According to BMI values, 22.9% men and 28.8% women were Grade-I overweight. Whereas 3.6% of men were in Grade-II overweight, 11.1% of women were Grade-II overweight. There were no morbidly obese men in the study group while 1.4% women were morbidly obese. This rate is consistent with the relationship between gender and weight in the overall population in Turkey. According to the same survey conducted by TSI, 24.5% and 29.3% women were obese and overweight, respectively, whereas these figures were 15.3% and 38.2%, respectively, in men (Turkish Statistical Institute, Turkey Health Survey 2014). Similarly, according to the results of TSI Health Survey 2010, the overall overweight rate in individuals aged >15 years was 16.9%, with values of 13.2% among men and 21% among women (Turkish Statistical Institute, 2010). Another study regarding the nutritional status of the elderly has reported varying results (Senturk and Ceylan, 2015).

With regard to exercise routines, 52% participants did not participate in physical exercise or sports, and 62% among these participants were women. In addition, the overweight rate was higher in women and chronic diseases were more common among women. This can be explained by the fact in old age, physical activity is even more important for preventing chronic diseases. There is a need for exercise to keep healthy and increase the quality of life at old age because exercise protects elderly people from diseases and increases the quality of life (Soyuer and Soyuer, 2008).

Approximately 36% participants who performed some exercise had walking as their preferred form of exercise. Men more frequently (50.5%) preferred walking outside than women (22.6%). This reveals the importance of pedestrianised roads, parks, and gardens where elderly people can exercise. In fact, one of every two elderly people who performed exercise went for walks outside.

Approximately 89% participants had a chronic disease, and the rate was 92.3% in women and 85.9% in men. A study conducted by Şahin et al. (2013) in Kayseri regarding nutritional status and quality of life among 2605 elderly individuals revealed that 80% of the elderly people had a chronic disease; the rate was 70.4% in men and 90.2% in women. The study conducted by Ayrancı et al. (2005) in Eskişehir revealed that 76% of elderly people had chronic diseases. Similarly, the study conducted by Aksoydan (2006) in Ankara revealed that 77.8% of elderly people had chronic diseases. Consistent with our results, other studies also revealed that chronic disease prevalence is much higher in women than in men. In this study, the most common chronic disease in the elderly was hypertension. Although this result is consistent with the results of some studies (Aksoydan, 2006; Otrar M, Kurtkapan, 2015), other studies have yielded quite different results. For example, in a study conducted in Sweden, only 14.8% of the elderly had chronic diseases (Ceylan, 2015). This can be interpreted as an indication of the difference between the profile of the elderly in Turkey and that of developed states.

The rate of smoking among the participants in the present study was much lower than in studies conducted in different cities in previous years. Indeed, in the study conducted by Güngör et al. with elderly people who stayed in a nursing home in Manisa, it was found that 32.4% of the elderly smoked (Gungor, Nehir and Ozbasaran, 2005). In a study conducted in the province of Van in 2004 on tobacco use in the elderly, it was determined that 25% of them smoked (Bilir, Ozcebe, Vaizoglu, Aslan and Subası, 2004). These results show that the rate of smoking in the elderly decreased considerably in a period of about 10 years. Moreover, considering sedentary lifestyles, changes in dietary habits, and smoking-related illnesses and the fact that 2 million people pass away because of not doing exercise (Soyuer and Soyuer, 2008), the importance of nutrition, exercise, and medication use becomes clearer.

### **Conclusion**

The results of our study indicated that some sociodemographic characteristics of the elderly were related to dietary, exercise, and medication-use habits. Especially, according to BMI values, which serve as an indicator of dietary and exercise habits, women are more disadvantageous in terms of health compared to men .

Furthermore, although relatively low smoking and alcohol consumption rates may be considered as factors positively affecting the quality of life among elderly individuals in Turkey, the lack of physical exercise, poor dietary habits, as well as irregular medication intake are the main factors that negatively affect quality of life. This increases the prevalence

of ageing-associated diseases in the elderly and poses an obstacle for them to stay independent during old age.

Considering the socioeconomic impact of dependent elderly individuals, our study results warrant the need for further comprehensive studies with the aim of increasing the quality of life of elderly individuals and providing measures to decrease the social impact of an ageing population.

## References

- Aksoydan E. Determination of health and nutritional status of the elderly living in their homes or nursing homes in Ankara. *Turkish Journal of Geriatrics* 2006; 9(3):150-7. [Internet] Available from: [http://geriatri.dergisi.org/pdf/pdf\\_TJG\\_312.pdf](http://geriatri.dergisi.org/pdf/pdf_TJG_312.pdf). Accessed: 01.10.2017.
- Ayrancı U, Kosgeroglu N, Yenilmez C, Aksoy F. Socio-economical Characteristics and Health Status of Elderly People in Eskisehir, Sted 2005;14(5):113-9. [Internet] Available from: <http://www.ttb.org.tr/STED/sted0505/eskisehir.pdf>. Accessed: 15.11.2017.
- Bilir N, Ozecebe H, Vaizoglu S, Aslan D, Subasi N. Smoking status of people 65 years old and over in city center of Van Province. *Turkish Journal of Geriatrics* 2004;7(2):74-7. [Internet] Available from: [http://geriatri.dergisi.org/pdf/pdf\\_TJG\\_206.pdf](http://geriatri.dergisi.org/pdf/pdf_TJG_206.pdf). Accessed: 12.10.2017.
- Ceylan H and Oksuz M. Analyzing the attitudes of Social Services Undergraduate Students towards Ageism. *The Journal of International Social Research* 2015;8(39):459-66. [Internet] Available from: [http://www.sosyalarastirmalar.com/cilt8/sayi39\\_pdf/4sosyoloji\\_psikoloji\\_felsefe/ceylan\\_harun.pdf](http://www.sosyalarastirmalar.com/cilt8/sayi39_pdf/4sosyoloji_psikoloji_felsefe/ceylan_harun.pdf). Accessed: 10.08.2017.
- Ceylan, H. Old Age and Welfare State. 1th edition, Acılım Book Turkey 2015. (in Turkish).
- Gungor N, Nehir S, Ozbasaran F. The effect of sociodemographic characteristics of the elderly living in the nursing home in Manisa city center on their nutritional condition. *Turkish Journal of Geriatrics* 2005;8(4):195-204. [Internet] Available from: [http://geriatri.dergisi.org/pdf/pdf\\_TJG\\_279.pdf](http://geriatri.dergisi.org/pdf/pdf_TJG_279.pdf). Accessed: 13.10.2017.
- Otrar M, Kurtkapan H. Quantitative research: The present situation of the elderly in Istanbul, In: Murat Sentürk, Harun Ceylan (Eds). *Research on aging in Istanbul, present situation of the elderly in Istanbul*. 1th edition, Acılım Book, Turkey, 2015, pp.129-228.
- Pekcan G, Koksall E, Kucukerdonmez O, Ozel H. Household Food Wastage In Turkey, February 2006. [Internet] Available from: <http://www.fao.org/docrep/013/am063e/am063e00.pdf>. Accessed: 29.11.2017.
- Sahin H, Cicek B, Yılmaz M, Ongan D, Kaya N, Inanc N. Determination of Nutritional Status and Quality of Life in individuals 65 years old and over in the province of Kayseri. *Turkish Journal of Geriatrics* 2013;16(3):322-9. [Internet] Available from: [http://geriatri.dergisi.org/pdf/pdf\\_TJG\\_756.pdf](http://geriatri.dergisi.org/pdf/pdf_TJG_756.pdf). Accessed: 05.10.2017.
- Senturk M, Ceylan H. *Ageing in Istanbul: Examining Present Situation of the Elderly*. Istanbul: Acılım Book 2015. (in Turkish).
- Soyuer F, Soyuer A. Old age and physical activity. *Inonu University Medical Faculty Journal* 2008;15 (3):219-24.
- Turkish Statistical Institute. (2010). *Health Survey*. [Internet] Available from: <http://www.tuik.gov.tr/PreHaberBultenleri.do?id=8620>. Accessed: 15.10.2017.
- Turkish Statistical Institute. *Address based population registration system results 2016*. 2017. [Internet] Available from: [http://www.tuik.gov.tr/PreTablo.do?alt\\_id=1059](http://www.tuik.gov.tr/PreTablo.do?alt_id=1059). Accessed: 10.10.2017.
- Turkish Statistical Institute. *Population Projections 2013-2075 (Newsletter)*, 2013. [Internet] Available from: <http://www.tuik.gov.tr/PreHaberBultenleri.do?id=15844>. Accessed: 07.11.2016.
- Turkish Statistical Institute. *Turkey Health Survey 2014, 2014*. [Internet] Available from: <http://www.tuik.gov.tr/PdfGetir.do?id=18854>. Accessed: 11.05.2017.