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RESEARCH

UTILIZATION OF HOME HEALTH CARE SERVICES PROVIDED BY GOVERNMENT AMONG ELDERLY INDIVIDUALS BETWEEN 2010 AND 2015 IN DİYARBAKIR, TURKEY

ABSTRACT

Introduction: Home health care is an important service for dependent individuals, particularly elderly; increasing the effectiveness of this system is imperative, considering the increased demographic ageing worldwide.

Materials and Method: This study focused on home health care services provided by the Diyarbakir Directorate of Health Services and the Secretary General of the Association of Public Hospitals between 2010 and 2015. Data from 850 elderly from public hospitals in Diyarbakir were analyzed. Elderly were divided into three age groups 64-74 years (n=215, 25%), 75-84 years (n=400, 47%) and 85+ years (n=235, 31%). The groups were compared based on sex, most common diseases, hospitals and years. In total 558 females (%65) and 292 males (%38) were included.

Results: Comparison of three age groups by frequency of diseases showed that, neurological diseases and diabetes ($\chi^2=38.742$, $p<0.001$) were more widespread accross age group 74-85 years. All hospitals were more efficient in 2014 and 2015 ($\chi^2=143.65$, $p<0.001$) and most of them were in the city center. No significant sex-based differences were found in the frequency of common diseases, in years and hospitals. On the other hand home health care use by women of age group 85 and over was significantly different from that by men in the same group ($\chi^2=18.415$, $p<0.001$).

Conclusion: Our findings show that measures taken by The Turkish Ministry of Health have been succesful because home health care use has improved in the last two years and the government of Turkey is trying to respond to the increased need for home health care by elderly individuals

Kew Words: Aged; Home Health Nursing; Geriatrics.



ARAŞTIRMA

2010-2015 YILLARI ARASINDA DİYARBAKIR, TÜRKİYE'DE YAŞLI BİREYLERİN KAMU KURULUŞLARI TARAFINDAN SAĞLANAN EVDE SAĞLIK HİZMETLERİNDEN FAYDALANMA DÜZEYİ

Öz

Giriş: Dünyada yaşlanan nüfusun her yıl biraz daha artış göstermesi yaşlı hastalıkları ile ilgili ciddi önlemler alınmasını ve evde bakım hizmetlerinin yaygınlaştırılmasını gerektirmektedir.

Gereç ve Yöntem: Bu çalışmada 2010-2015 yılları arasında Diyarbakir Halk Sağlığı Müdürlüğü ve Kamu Hastaneler Birliği Sekreterliği tarafından verilen evde bakım hizmetleri ele alınmıştır. Diyarbakir merkez ve beş ilçesindeki hastane değerlendirilmiş, bu kurumlarda evde bakım hizmeti alan 850 yaşlı birey üç yaş grubuna ayrılarak, cinsiyet, yaşlılıkta en fazla görülen hastalıklar, hastaneler ve yıllara göre ve kendi aralarında karşılaştırılmıştır. Hastaların 215 (%25)'i 65-74 yaş, 400 (%47)'ü 75-84 ve 235 (%31)'i 85 ve üzeri yaş grubuna ait olup, 558'i kadın (%65), 292'si erkektir (%38).

Bulgular: Evde bakım hizmeti alan hastalar yaş gruplarına göre kıyaslandığında, 74-85 yaş grubu hastalarda nörolojik hastalıkların ve diyabetin ($\chi^2=38.742$, $p<0.001$) daha çok görüldüğü belirlenmiştir. Tüm hastaneler 2014 ve 2015 yılında daha fazla hizmet verirken ($\chi^2=143.65$, $p<0.001$), şehir merkezindeki hastaneler daha çok hizmet vermiştir. Kadın-erkek grupları karşılaştırıldığında hastalıkların görülme sıklığı, yıllar ve hastaneler açısından önemli bir fark bulunamazken, evde bakım hizmeti alan hastalar arasında 85 ve daha büyük yaş grubunda daha çok kadın olduğu görülmüştür ($\chi^2=18.415$, $p<0.001$).

Sonuç: Türkiye'de Sağlık Bakanlığı'nın evde bakım hizmetlerine verdiği önem ve ciddi önlemler alınması sonucunda evde bakım hizmetlerinde önemli bir şekilde artış görülmüş ve yaşlı bireylerin bu hizmetten giderek artan düzeyde yararlanmalarına neden olmuştur.

Anahtar Sözcükler: Yaşlı; Evde Bakım Hizmeti; Geriatri.



INTRODUCTION

Home health care is provided by professional health professionals to people at their homes. Home health care includes a comprehensive range of services including medical and social services, physical therapies, nursing care, and speech-language therapy (1). It also covers various care functions including catheters, injections, psychological assessments, wound care, disease education, oxygen therapy, medication reminders, pain management and nutritional evaluation. These services are provided by skilled professionals including doctors, nurses, physical therapists and home health aides, who work for private home health agencies, municipalities or private and public institutions (2, 3). The objective of home health care is to help patients to live with greater independence, assist them to continue their life at home, and promote the patient's health. Sometimes this care is recommended by physicians but is generally requested by family members or the patient (1,4).

Since the 1990s, home health care has increased in developed countries and has become an important aspect of their health services. However it wasn't seriously considered by the Turkish government until 2010. In Turkey, health services are provided by public and private sectors. Public health services were initially administered by the Ministry of Health and supplied by the Social Security Institution. After restructuring of health programs, these services also began to be provided by the private sector. As the Ministry of Health is the main provider of primary and secondary health care, it is responsible for national health services and policies including amendments for home health care services. The most serious regulation defining the delivery of home health care services was established by Law 2551 in March 2005 (5). This was followed by Directive 3895 "The Implementation of Health Care Services at Home" in February 2010 which detailed different types of home care services, responsible staff, necessities and tools (6).

After 2010, public health hospitals began to provide home health care services and this led to an increase in the number of people using these services. In Diyarbakır, Turkey, home health care services were provided by the Diyarbakır Directorate of Health Service and the Secretary General of the Association of Public Hospitals. The Coordination Center of Home Health Care Services was established within the Diyarbakır Public Health Center to coordinate these services. Five and seven hospitals in the Diyarbakır city center and districts, respectively are connected to this center. Six practitioners, 21 nurses, and 27 other skilled staff are employed.

The literature highlights that some diagnoses are common among elderly individuals, such as arthritis, cardiovascular diseases (high blood pressure, high cholesterol levels), cancer (lung, cervical, colorectal, mouth, throat, skin, prostate), respiratory diseases (chronic obstructive pulmonary disease [COPD], asthma, chronic bronchitis), neurological disorders (Alzheimer's disease, dementia, Parkinson's disease), musculoskeletal disorders (falls, fractures, osteoporosis), diabetes, obesity, and depression. Disabilities are also common among elderly individuals. Causes of disability have been related to illnesses such as cancer, heart attacks, diabetes, arthritis, injuries and paralysis, mental disorders, cardiovascular diseases and neurological disorders (7-12).

The present study reviewed the utilization of home health care services provided by government among elderly individuals from 2010–2015. Comparisons were made based on common diseases, sex, hospital, and years.

MATERIALS AND METHOD

In the present study, home health care services provided by the Diyarbakır Directorate of Health Services and the Secretary General of the Association of Public Hospitals from 2010–2015 were reviewed. Data were obtained over a 6-month period from the Ministry of Health and the Diyarbakır Directorate of Health Services, after getting formal permission. Ethics committee approval was obtained from Dicle University Hospital on the request of the Ministry of Health.

Data for 850 elderly individuals who used home health care services between 2010–2015 in the city center and five districts of Diyarbakır were obtained. Since elder patients were included heavily in two city center hospitals and five district hospitals, only data of these seven hospitals were analyzed. Elderly individuals were divided into three age groups (65-74, 75-84, and 85 and over years) and compared by sex, most common diseases, hospitals, and years. Descriptive statistics were calculated and chi-square tests were performed using SPSS Version 21. As a wide range of diseases were recorded by health staff; diseases were classified into seven groups for the purpose of the present analysis. The seven diseases groups were:

1. Neurological diseases (Multiple sclerosis, stroke, spinal cord injuries, all kinds of motor neuron diseases, brain injuries, Parkinson's disease);
2. Advanced neurodegenerative diseases (Dementia, Alzheimer's disease, ALS);



3. Muskuloskeletal diseases (Fractures, rheumatoid arthritis, postmenopausal and post-traumatic osteoporosis)
4. Cardiovascular diseases (Hypertension, heart diseases, high cholesterol);
5. Respiratory diseases (Asthma, chronic bronchitis);
6. Diabetes;
7. Other (Cancer, eye diseases, mental diseases)

The hospitals that provided home health care services in Diyarbakır were: Gazi Yaşargil Education and Research Hospital and Selahaddin Eyyubi Public Hospital in city center, Ergani Public Hospital, Bismil Public Hospital, Çermik Public Hospital, Çınar Public Hospital, and Dicle Public Hospital in districts.

RESULTS

As can be seen in Table 1, comparison of the three age groups by sex showed that there were more female patients in age group 85 and over ($\chi^2=18.415$, $p<0.001$). In all of hospitals use of home health care by age group 74-85 was more than that of other groups and this was statistically significant ($\chi^2=10.751$, $p<0.05$).

The comparison of the prevalence of the most common diseases according to age groups showed that neurological diseases (Multiple sclerosis, stroke, spinal cord injuries, all kinds of motor neuron diseases, brain injuries, Parkinson's disease) advanced neurodegenerative diseases (Dementia, Alzheimer's disease) and diabetes ($\chi^2=38.742$, $p<0.001$) were significantly widespread across age group 74-85.

Table 2 shows that there were no significant sex-based differences between years ($\chi^2=3.104$, $p>0.05$), hospitals ($\chi^2=1.405$, $p>0.05$), and prevalence of the most common diseases.

Table 3 shows that in 2014 and 2015, there was an increase in the use of home health care services in all hospitals ($\chi^2=143.65$, $p<0.001$). A significant difference was found when the frequency of common diseases were compared based on years. Neurological diseases (Multiple sclerosis, stroke, spinal cord injuries, all kinds of motor neuron diseases, brain injuries, Parkinson's disease) and advanced neurodegenerative diseases (Dementia, Alzheimer's disease) ($\chi^2=143.65$, $p<0.001$) significantly increased in 2015. An increase in frequency of diabetes and cancer was found but this wasn't significant.

Table 1— Distribution of Socidemographic Parameters by Age Groups

	65-74 Years n (%)	74-85 Years n (%)	+85 Years n (%)	Total	χ^2	p
Sex						
Male	93 (31.9)	142 (48.6)	57 (19.5)	292 (100)	18.415	<0.001
Female	122 (21.9)	258 (46.2)	178 (31.9)	558 (100)		
Years						
2010-2013	22 (14.5)	84 (55.3)	46 (30.2)	152 (100)	15.760	<0.01
2014	46 (30.7)	57 (38.0)	47 (31.3)	150 (100)		
2015	147 (26.8)	259 (47.3)	142 (25.9)	548 (100)		
Hospitals						
Selahaddin Eyyubi Public Hospital	89 (25.0)	151 (42.4)	116 (32.6)	356 (100)	10.751	<0.05
Gazi Yaşargil Education and Research Hospital	55 (22.5)	130 (53.3)	59 (24.2)	244 (100)		
Others	71 (28.4)	119 (47.6)	60 (24.0)	250 (100)		
Frequency of diseases						
Neurological diseases	63 (30.1)	104 (49.8)	42 (20.1)	209 (100)	38.742	<0.001
Advanced neurodegenerative diseases	40 (17.7)	101 (44.6)	85 (37.6)	226 (100)		
Muskuloskeletal diseases	25 (26.4)	38 (40.0)	32 (33.6)	95 (100)		
Cardiovascular diseases	39 (24.5)	83 (52.2)	37 (23.3)	159 (100)		
Respiratory diseases	20 (33.3)	24 (40.0)	16 (26.7)	60 (100)		
Diabetes	21 (40.4)	25 (48.1)	6 (11.5)	52 (100)		
Others	7 (14.3)	26 (53.1)	16 (32.6)	49 (100)		



Table 2— Sex Based Differences in the Study Parameter

	Male n (%)	Female n (%)	Total	χ^2	p
Years					
2010-2013	43 (28.3)	109 (71.7)	152 (100)	3.104	>0.05
2014	52 (34.7)	98 (65.3)	150 (100)		
2015	198 (36.1)	350 (63.9)	548 (100)		
Hospitals					
Selahaddin Eyyubi Public Hospital	116 (32.6)	240 (67.4)	356 (100)	1.405	>0.05
Gazi Yaşargil Education and Research Hospital	83 (34.0)	161 (66.0)	244 (100)		
Others	93 (37.2)	157 (62.8)	250 (100)		
Frequency of diseases					
Neurologic diseases	79 (37.8)	130 (62.2)	209 (100)	5.561	>0.05
Advanced neurodegenerative diseases	73 (32.3)	153 (67.7)	226 (100)		
Muskuloskeletal diseases	30 (31.6)	65 (68.4)	95 (100)		
Cardiovascular diseases	50 (31.4)	109 (68.6)	159 (100)		
Respiratory diseases	24 (40.0)	36 (60.0)	60 (100)		
Diabetes	15 (28.8)	37 (71.2)	52 (100)		
Others	21 (42.9)	28 (57.1)	49 (100)		

Table 3— Differences Between Parameters by Year

	2010-2013 n (%)	2014 n (%)	2015 n (%)	Total	χ^2	p
Hospitals						
Selahaddin Eyyubi Public Hospital	84 (23.6)	89 (25.0)	183 (51.4)	356 (100)	143.65	<0.001
Gazi Yaşargil Education and Research Hospital	63 (25.8)	53 (21.7)	128 (52.5)	244 (100)		
Others	5 (2.0)	8 (3.2)	237 (94.8)	250 (100)		
Frequency of diseases						
Neurologic diseases	51 (24.4)	32 (15.3)	126 (60.3)	209 (100)	143.65	<0.001
Advanced neurodegenerative diseases	45 (19.9)	59 (26.10)	122 (54.0)	226 (100)		
Muskuloskeletal diseases	12 (12.6)	13 (13.7)	70 (73.7)	95 (100)		
Cardiovascular diseases	23 (14.5)	27 (17.0)	109 (68.5)	159 (100)		
Respiratory diseases	8 (13.4)	11 (18.3)	41 (68.3)	60 (100)		
Diabetes	7 (13.5)	4 (7.7)	41 (78.8)	52 (100)		
Others	6 (12.2)	4 (8.2)	39 (79.6)	49 (100)		

DISCUSSION

In all age groups, home health care was used more by women but we found a significant difference between female and male patients in 85 and over age group in terms of use of home health care services. While this result was consistent with the findings of several previous studies (13-16), other studies have reported conflicting results (17-19).

In literature, some studies found that women suffer more from musculoskeletal disorders, osteoporosis, fractures, and metabolic diseases, whereas men suffer from problems, such as

cardiovascular diseases and respiratory diseases (13-16). Our findings are inconsistent with these studies, but are consistent with other studies that found no sex-based differences in the prevalence of diseases (17-19).

When the use of home health care services was compared by year, our findings were consistent with other studies that reported home health care services were increasing annually (12,19,20). We also found that the prevalence of neurological diseases increased in 2015. This is inconsistent with previous studies (13,14 and 20).



When we compared the three age groups, we found differences in the prevalence of diseases. Neurological diseases, musculoskeletal and respiratory diseases were more often seen in the younger group of elderly individuals (65–74 and 74–85 years). This is consistent with some studies (13,16) but conflicting with some others (14,17).

Selahattin Eyyubi Public Hospital was significantly used more regarding home health care services. As district hospitals had only been providing home care services for approximately one year, their services may not yet be as widespread as hospitals in the city center.

According to the World Health Organization publication *World Health Statistics* (2014), people around the world are living longer (21). In 2013, life expectancy in Europe was 80.6 years and in Turkey was 76.3 years; however, life expectancy is increasing every year (22-23). Ageing brings many problems, including decline in cognitive ability, social capability, and psychological condition, related to changes in anatomical structures and health status (24). As the elderly population increases in Turkey annually, improving the physical and mental health of this population should be an important goal for health care workers (25).

In Turkey, elderly individuals face many difficulties in maintaining their quality of life as factors such as age, gender, location, education, and socioeconomic levels may be barriers in using health services. Governments are responsible for providing health services for elderly individuals through public health organizations and social security systems. In Turkey, this service is provided by the Ministry of Health, and improvements have been observed every year.

Home health care is an essential health service, especially in the last years of life, as elderly individuals may have difficulty in accessing health institutions because of levels of dependence. Our findings indicate that the Turkish Ministry of Health is trying to respond to the increased need for home health care by elderly individuals.

REFERENCES

- Ellenbecker CH, Samia L, Cushman MJ, Alster K. Patient Safety and Quality in Home Health Care. In: Hughes RG (Ed). *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Chapter 13, Rockville (MD): Agency for Healthcare Research and Quality (US); 2008 Apr. [Internet] Available from: <http://www.ncbi.nlm.nih.gov/books/NBK2631/> Accessed:01.02.2016.
- Kisa A, Ersoy K. Physicians' concerns about home health care in Turkey: how supportive are they? *Home Health Care Managand Pract* 2005;17 (6):448-55. [Internet] Available from: <http://hhc.sagepub.com/content/17/6/448.short> <http://dx.doi.org/10.1177/1084822305278148> Accessed:02.02.2016.
- Kisa A, Kavuncubasi S, Ersoy K. Is the Turkish health care system ready to be a part of the European Union? *J Med Syst* 2002;26 (2):89-95. (PMID:11993575).
- Kisa S. Turkish nurses' concerns about home health care in Turkey. *Aust J Adv Nurs* 2008;25 (4):97-106. [Internet] Available from: http://www.ajan.com.au/Vol25/Vol_25-4_Kisa.pdf. Accessed:01.02.2016.
- General Directorate of Development of Legislation and Publication. Implementation of Health Care Services at Home. Official Journal No: 25751, Ankara, 10.03.2005; [Internet] Available from: <http://www.mevzuat.gov.tr/Metin.Asp?MevzuatKod=7.5.7542&sourceXmlSearch=&MevzuatIliski=0>, Accessed:08.02.2016. (In Turkish).
- The Ministry of Health, Directive on procedures and applications of home health care services, Ankara, February, 2010 [Internet] Available from: <http://www.saglik.gov.tr/TR/dosya/1-72726/h/son-yonerge.doc>, Accessed: 06.02.2016. (In Turkish).
- Yoshida D, Ninomiya T, Doi Y, et al. Prevalance and causes of functional disability in an elderly general population of Japanese: the Hisayama study. *J Epidemiology* 2012;22 (3):222-9. (PMID:22343328).
- Zhu L, Fratiglioni L, Guo Z, Agüero-Torres H, Winblad B, Viitanen M. Association of stroke with dementia, cognitive impairment, and functional disability in the very old: a population-based study. *Stroke* 1998;29 (10): 2094-9. (PMID:9756588).
- Sauvaget C, Yamada M, Fujiwara S, Sasaki H, Mimori Y. Dementia as a predictor of functional disability: a four-year follow-up study. *Gerontology* 2002;48 (4):226-33. (PMID:12053112).
- McColl MA, Shortt S, Gignac M, Lam M. Disentangling the effects of disability and age on health service utilisation, *Disabil Rehabil* 2011;33 (13-14):1253-61. [Internet] Available from: <http://dx.doi.org/10.3109/09638288.2010.526166> Accessed: 02.02.2016.
- Cutler DM. Declining disability among the elderly. *Health Aff* 2001;20 (6):11-27. (PMID:11816649).
- Lafortune G, Balestat G. Trends in severe disability among elderly people: assessing the evidence in 12 OECD countries and the future implications. *OECD Health Working Papers* 2007, No. 26, OECD Publishing, Paris:1-81. [Internet] Available from: <http://dx.doi.org/10.1787/217072070078> Accessed:01.02.2016.
- Murtagh KN, Hubert MA, Hubert HB. Gender differences in physical disability among an elderly cohort. *Am J Public Health* 2004;94 (8):1406-11. [Internet] Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1448463/> Accessed:03.02.2016.



14. Al-Modeer MA, Hassanien NS, Jabloun CM. Profile of morbidity among elderly at home health care service in Southern Saudi Arabia. *J Family Community Med* 2013;20 (1):53-7. [Internet] Available from: <http://dx.doi: 10.4103/2230-8229.108187>. Accessed:02.02.2016. (PMID:23723732).
15. Hoeck S, Francois G, Geerts J, Van der Heyden JD, Vandewoude M, Van Hal G. Health-care and home-care utilization among frail elderly persons in Belgium. *Eur J Public Health* 2012;22(5):671-7. [Internet] Available from: <http://dx.doi:10.1093/eurpub/ckr133>. Accessed: 03.01.2016.
16. Hellström Y, Hallberg IR. Perspectives of elderly people receiving home help on health, care and quality of life. *Health Soc Care Community* 2001;9 (2):61-71. [Internet] Available from: <http://dx.doi/10.1046/j.1365-2524.2001.00282> Accessed:01.01.2016.
17. Liu LF, Tian WH, Yao HP. Utilization of health care services by elderly people with National Health Insurance in Taiwan: The heterogeneous health profile approach. *Health Policy* 2012;108(2-3):246-55. [Internet] Available from: <http://dx.doi:10.1016/j.healthpol.2012.08.022>. Accessed:04.01.2016.
18. Heinrich S, Lupp M, Matschinger H, Angermeyer MC, Riedel-Heller SG, König HH. Service utilization and health-care costs in the advanced elderly. *Value Health* 2008;11 (4):611-20 [Internet] Available from: <http://dx.doi:10.1111/j.1524-4733.2007.00285>. Accessed:04.02.2016.
19. Nadarevic-Stefanec V, Malatestinic D, Mataija-Redzovic A, Nadarevic T. Patient satisfaction and quality in home health care of elderly islanders. *Coll Antropol* 2011;35(Suppl 2):213-16. (PMID:22220438).
20. Thume E, Facchini LA, Tomasi E, Vieira LA. Home health care for the elderly: associated factors and characteristics of access and healthcare. *Rev Saude Publica*. 2010;44 (6):1102-11. (PMID:20835494).
21. WHO. World health statistics. [Internet] Available from: <http://www.who.int/mediacentre/news/releases/2014/world-health-statistics-2014/en/>. Accessed:02.02.2016.
22. EU Statistics. [Internet] Available from: [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Life_expectancy_at_birth,_1980%E2%80%932013_\(years\)_YB15.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Life_expectancy_at_birth,_1980%E2%80%932013_(years)_YB15.png) Accessed:02.01.2016.
23. TÜİK. Annually Statistics. [Internet] Available from: http://www.tuik.gov.tr/Kitap.do?metod=KitapDetay&KT_ID=0&KITAP_ID=1. Accessed:07.02.2016 (In Turkish).
24. Yilmaz F, Celik C, Tekin R. Investigating the effects of poverty on health and quality of life in poor people aged 65 and over in Etimesgut district, Ankara. *Turk J Geriatr* 2014;17(4):397-403. [Internet] Available from: <http://geriatri.dergisi.org/text.php?id=852> Accessed: 02.02.2016. (In Turkish).
25. Guven S, Sener A: Factors affecting life satisfaction in old age. *Turk J Geriatr* 2010;14 (2):179-86. [Internet] Available from: <http://geriatri.dergisi.org/text.php?id=579> Accessed:02.02.2016. (In Turkish).