

ORIGINAL ARTICLE

Medicine Science 2020;9(3):674-82

The rational drug use of elderly individuals receiving home care service and the affecting factors Ilyas Yilmaz¹,  Fatma Ersin²,  Elif Oguz³¹Ministry of Health,, Department of Health, Sanliurfa, Turkey²Harran University, Faculty of Health Sciences, Public Health Nursing Department, Sanliurfa, Turkey³Istanbul Medeniyet University, Faculty of Medicine, Department of Medical Pharmacology, İstanbul, Turkey

Received 16 April 2020; Accepted 14 Jun 2020

Available online 17.08.2020 with doi: 10.5455/medscience.2020.04.056

Abstract

The study was conducted descriptively for the purpose of examining the rational drug use of elderly individuals receiving home care service and the affecting factors. It was carried out between October 2016 - May 2017. Sample of the study consisted of 320 individuals. Data were collected using; Questionnaire Form, Standardized Mini Mental Test and Standardized Mini Mental Test for Illiterate. The data were analyzed using descriptive statistics, chi-square analysis. It was determined that 54.1% of the elderly individuals immediately went to the doctor when they got sick, 59.7% went to the doctor only when they got sick and 85% had any chronic disease. It was determined that there was a statistically significant difference between the individuals in terms of the time of going to the doctor, following the doctor's instructions, understanding the advice on drugs, knowing the intended purpose of drugs, checking the expire date of drugs and taking drugs in time according to age; in terms of understanding the advice on drugs according to gender; in terms of following the doctor's instructions and understanding the advice on drugs according to educational background; in terms of understanding the advice on drugs, knowing the intended purpose of drugs and checking the expire date of drugs according to marital status; and in terms of understanding the advice on drugs, knowing the intended purpose of drugs and checking the expire date of drugs according to income status ($p < 0.05$). As a consequence, it is seen that rational drug use of elderly individuals receiving home care is not up to the mark. Thus, it can be suggested to apply health trainings to both elderly individuals and individuals providing home care on rational drug use.

Keywords: Home care, elderly individual, rational drug use, nursing**Introduction**

The aging of the population as a result of the developments in the field of health and the development of economic and sociocultural conditions is an important demographic phenomenon that has come to the forefront in the world, especially in the twenty-first century [1]. The proportion of the elderly population to the total population has increased from 7.7% in 2013 to 8.5% in 2017. In the census conducted in our country in 2018, 8.8% of individuals were found to be aged 65 years and older, and it is predicted that the elderly population will continue to increase [2]. Chronic diseases increase with age. Chronic diseases require the use of more than one drug. Kutsal et al. [3] conducted a study in 12 different cities of Turkey in 2006 and determined that 84.7% of the elderly had a drug they continuously used, while 38.2% used four or more drugs.

Failure to apply rational approaches to drug use in the elderly will bring along many problems. These may include the use of drugs at the wrong times, at very high or low doses and without a prescription, forgetting to take the drugs, use of vitamins and food supplements and not reporting this to the doctor or nurse and neglecting the geriatric age group in drug production [4-6]. It is very important to inform the elderly about rational drug use. Both the nurses of elderly home care patients and the nurses working in primary care outpatient units should observe the behaviors of the elderly in terms of rational drug use, prevent the mistakes they make and try to recognize these wrong habits in the early period. Home visits will provide nurses with the opportunity to prevent and reduce the problems that may arise due to irrational drug use in elderly individuals [7].

Here, the importance of home care services again comes to the fore. The fact that the elderly population receive care services in their own living areas and get home care is an important factor that supports care in a holistic approach. In addition to the care and treatment services received under the supervision of healthcare professionals in inpatient institutions, self-medication applications also require the educational and guiding counseling of a healthcare professional.

*Corresponding Author: Fatma Ersin, Harran University, Faculty of Health Sciences, Public Health Nursing Department, Sanliurfa, Turkey
E-mail: fatmaersin1@gmail.com

To carry out home care services that support the holistic approach in a healthy way, it is necessary to determine the conditions of the elderly receiving this service and to increase the studies on healthy aging in their own living areas and cultural environment [8].

For this reason, this study was conducted to determine the rational drug use of the elderly and the factors affecting this in home care units of two state hospital.

Materials and Methods

Research Type

This research was carried out as a descriptive study.

Research Time Period and Place

This research was carried out between October 2016 and May 2017 in the home care units of two state hospital.

Research Population and Sample

The population of the study consisted of 957 elderly individuals living in the regions affiliated with the home care units two state hospital and receiving home care services. However, individuals who could not “speak or understand Turkish (20 elderly individual)”, who had “severe hearing-vision loss (135 elderly individual)”, those with diagnosis of dementia or Alzheimer's (426 elderly individual) and those who received less than 24 points from the Standardized Mini Mental Test (56 elderly individual) were not included in the study. Therefore, a total of 320 elderly individuals constituted the sample of the study.

Data Collection Tools

The questionnaire form created by the researcher by scanning the literature[3, 7, 9, 10], standardized mini mental test [11,12] and standardized mini mental test for the uneducated were used [6, 11, 13-16].Data were collected by the researcher through face-to-face interview method.Data collection took approximately 40-45 minutes.

Elderly Diagnosis Form

The elderly diagnosis form created by the researcher by scanning the literature consists of 67 questions including socio-demographic characteristics, characteristics showing the individual's general health status and characteristics related to drug use [3, 7, 9, 10].

Standardized Mini Mental Test (SMMT)

The Mini Mental Test (MMT) was first published by Folstein et al. [11].The test consists of five main headings as 1. orientation, 2. record memory, 3. attention and calculation, 4. recall and 5. language. The test has eleven items. The total score is 30, and the evaluation is based on this score. The test has a threshold value of 23, sensitivity of 87% and selectivity of 82%. The test has a false positivity of 39% and false negativity of 4.7%. In Turkey, Güngen et al. [12] found SMMT to have a threshold value of 23/24, sensitivity of 0.91 and selectivity of 0.95. In addition, they determined that it as a positive predictor value of 0.90, negative predictor value of 0.95 and kappa value of 0.86. When reliability among practitioners was examined, r: 0.99 and a kappa value of 0.92 were found [12].

Standardized Mini Mental Test for the Uneducated(SMMT_E)

Using the original test of Folstein et al. [11] and the version prepared by Ganguli et al. [13] for the low-educated Indian society, Ertan et al. [14] created the Standardized Mini Mental Test for the Uneducated(SMMT-E). The application guides of Molly et al. [15] were translated into Turkish, later modified and then adapted to the test [6]. When the scores obtained from the test were evaluated, it was stated that 0-9 points expressed severe cognitive disorder, 10-19 points expressed moderate cognitive disorder, 20-23 points expressed mild cognitive disorder, and 24-30 points expressed normal limits [15, 16].

Evaluation of the Ability to Use Drugs

The ability to use drugs was evaluated based on the following questions in the elderly diagnosis form: “Do you ever forget to take your drugs?”, “Have you ever been negligent about the time you should be taking your drugs, i.e. have you ever skipped them?”, “Do you take care to take your drugs in the doses recommended by your physician (as in the number of tablets or a spoonful)?”, “When feeling well, do you ever decide not to take your drugs without consulting your physician first?” and “When feeling unwell after a dose, do you ever decide not to take your drugs without consulting your physician first?”. The individuals were considered to have no disability if they answered all the questions with “no”, but disability was considered if even a single question was answered with “yes”[3, 7, 9].The responses were evaluated by the question: “Is there a problem in the ability to use drugs?”.

Research Variables

Dependent Variables: The dependent variables of the study are the drug use status and the drug compliance status of the elderly. Independent Variables: The independent variables are socio-demographic characteristics (age, gender, educational status, marital status, income level, who they live with at home, chronic diseases) and general health status that define the patient.

Evaluation of Data

For the evaluation of the data, SPSS 16.0 package software was used. In the analysis of the data, descriptive statistics and chi-squared analysis were performed.

Results

38.4% of the individuals were aged between 65-69 years, 56.3% were male, 40.6% were middle school and above, and 76.6% were married. 58.4% of the elderly had a moderate-income level, and 37.2% stated that they lived with their spouse (Table 1). 54.1% of the elderly stated that they went to the doctor as a first thing when they got sick. It was determined that 59.7% of the individuals evaluated their health as good. It was also determined that 85.0% of the elderly had a chronic disease, 35.0% were diagnosed with hypertension, and 32.2% were diagnosed with diabetes (Table 2).

22.5% of the elderly stated that they followed the instructions of the doctor in drug use, 78.1% understood what was said about the drug, and 74.4% consulted the doctor when they had problems with the drug. 66.6% of the elderly stated that they used non-prescription drugs, 44.4% used three and more, 60.1% used drugs with headache complaints and without visiting a doctor, 83.4% used mostly

painkillers without visiting a doctor, and 40.6% recommended drugs to those with similar complaints. 58.8% of the elderly stated that they knew the purpose of the drugs, 57.8% did not know the side effects of the drugs, 53.2% did not check the expiry dates, and

64.7% did not read the prospectus. It was determined that 54.4% of the elderly did not pay attention to taking their drug on time, 62.5% took the drugs at the recommended doses, and 57.8% had problems in their ability to use drugs (Table 3).

Table 1. Distribution of socio-demographic characteristics of the elderly receiving home care services (n=320)

Characteristics	n	%
Age	65-69	123
	70-74	98
	75-79	74
	80 and above	25
Gender	Male	180
	Female	140
Education status	Illiterate	90
	Primary school – literate	100
	Middle school and above	130
Marital status	Married	245
	Single	75
Income level	Good	100
	Moderate	187
	Poor	33
Family member living together	Spouse	119
	Children	101
	Spouse and children	80
	Alone	20
Total	320	100.0

Table 2. Distribution of health status characteristics of the elderly receiving home care services

Characteristics	n	%
The first thing to do when they get sick	Visit a doctor	173
	buy drugs based on Pharmacist advice	94
	Ask people for drugs	53
When they visit a doctor	Regularly	70
	When you get sick	191
	To get prescribed drugs	59
How they evaluate their health	Good	191
	Poor	129
Chronic disease	Yes	272
	No	48
Type of chronic disease	Heart disease	51
	Hypertension	112
	Diabetes mellitus	103
	Cancer	22
	Psychological disorders	32
Total	320	100.0

Table 3. Distribution of drug use characteristics of the elderly receiving home care services

Characteristics		n	%
Compliance with doctor's instructions in drug use	Yes	72	22.5
	No	248	77.5
Understanding what is said about the drug	Yes	250	78.1
	No	70	21.9
What to do when having problems with the drug	Consult Doctor	238	74.4
	Consult Nurse	62	19.4
	Read Prospectus	20	6.2
Using non-prescription drugs	Yes	213	66.6
	No	107	33.4
Number of drugs used for a longer period	One	65	20.3
	Two	113	35.3
	Three or more	142	44.4
	None	10	3.1
Which complaints make them use drugs without visiting a doctor	Headache	221	60.1
	Cold	39	12.2
	Toothache	18	5.6
	Muscle Pain	6	1.9
	Stomach Complaints	3	0.9
	Blood Pressure	7	2.2
	Heart Disease	1	0.3
	Diabetes	2	0.6
	Other	19	5.9
	I Don't Use Drugs without Visiting a Doctor	4	1.3
What drugs they use without visiting a doctor	Painkillers	267	83.4
	Antibiotics	16	5.0
	Vitamins	7	2.2
	Stomach Drugs	2	0.6
	Blood Pressure Drugs	5	1.6
	Diabetes Drugs	1	0.3
	Others	19	5.9
	I Don't Use Drugs without Visiting a Doctor	3	0.9
Recommending drugs to those with similar drugs	Yes	130	40.6
	No	190	59.4
Knowing the purpose of the drugs	Yes	188	58.8
	No	132	41.3
Knowing the side effects of the drugs	Yes	137	42.8
	No	185	57.8
Checking the expiry dates	Yes	150	46.8
	No	170	53.2
Reading the prospectus	Yes	113	35.3
	No	207	64.7
Paying attention to using drugs on time	Yes	146	45.6
	No	174	54.4
Taking recommended doses	Yes	200	62.5
	No	120	37.5
Problems in the ability to use drugs	Yes	185	57.8
	None	135	42.2
Total		320	100.0

Table 4. Distribution of drug information status of the elderly receiving home care services

Information about Drugs		n	%
Obtaining Information about the Drug	Yes	284	88.8
	No	36	11.2
Source of Information	Doctor	182	56.9
	Nurse	50	15.6
	Pharmacist	48	15.0
	Health Personnel Visiting for Home Care	40	12.5
Understanding the Information	Yes	192	60.0
	No	128	40.0
Finding the Information Sufficient	Yes	214	66.9
	No	106	33.1
Total		320	100

Table 5. Comparison of the distribution of some characteristics of the elderly according to gender

		Gender				Statistical Value	
		Male		Female			
		n	%	n	%		
First thing to do when they get sick	Visit a doctor	82	47.8	91	52.6	X2=27.389	p= 0.000
	Take drugs on Pharmacist advice	74	78.7	20	21.3		
	Ask people for drugs	24	45.3	29	54.7		
When they visit a doctor	Regularly	29	41.4	41	58.6	X2=8.625	p=0.013
	Only when they get sick	118	61.8	73	38.2		
	For prescription	33	55.9	26	44.1		
Chronic disease	Yes	152	55.9	120	44.1	X2= .025	*p= 0.875
	No	28	58.3	20	41.7		
Following doctor’s instructions	Yes	141	56.9	107	43.1	X2=0.164	p=0.686
	No	39	54.2	33	45.8		
Understanding the information on the drug	Yes	149	59.6	101	40.4	X2=5.212	p= 0.022
	No	31	44.3	39	55.7		
What they do when they have problems with the drug	Consult doctor	132	55.5	106	44.5	X2=5.249	p=0.154
	Consult nurse	11	50.0	11	50.0		
	Read prospectus	14	82.4	3	17.6		
	Discontinue the drug	23	53.5	20	46.5		
Knowing the purpose of the drug	Yes	134	71.3	54	28.7	X2=41.817	p=0.000
	No	46	34.8	86	65.2		
Checking the expiry dates	Yes	116	69.5	51	30.5	X2=24.771	p=0.000
	No	64	41.8	89	58.2		
Taking the drugs on time	Yes	125	85.6	21	14.4	X2=94.093	p=0.000
	Do	55	31.6	119	68.4		
Source of information	Doctor	140	76.9	42	23.1	X2=76.078	p=0.000
	Nurse	12	24.0	38	76.0		
	Pharmacist	12	25.0	36	75.0		
	Health personnel visiting for home care	16	40.0	24	60.0		

* Yates Correction chi-square

Table 6. Comparison of the distribution of some characteristics of the elderly according to education level

Characteristics		Education Level						Statistical Value
		Illiterate		Primary school -literate		Middle and above		
		n	%	n	%	n	%	
First Thing to Do When They Get Sick	Visit a Doctor	24	13.9	55	31.8	94	54.3	X²=65.268 p=0.000
	Take Drugs on Pharmacist Advice	36	38.3	22	23.4	36	38.3	
	Ask People for Drugs	30	56.6	23	43.4	0	0	
When They Visit a Doctor	Regularly	3	4.3	25	35.7	42	60.0	X²=64.608 p=0.000
	Only When They Get Sick	48	25.1	64	33.5	79	41.4	
	For Prescription	39	66.1	11	18.6	9	15.3	
Chronic Disease	Yes	77	28.4	82	30.1	113	41.5	X²=1.105 p=0.576
	No	13	27.1	18	37.5	17	35.4	
Following Doctor’s Instructions	Yes	30	12.1	95	38.3	123	49.6	X²=140.083 p=0.000
	No	60	83.4	5	6.9	7	9.7	
Understanding the Information About the Drug	Yes	54	21.6	85	34.0	111	44.4	X²=24.075 p=0.029
	No	36	51.4	15	21.4	19	27.2	
What to Do When Facing Problems about the drug	Consult Doctor	67	28.2	77	32.4	94	39.4	X²=9.779 p=0.134
	Consult Nurse	2	9.1	8	36.4	12	54.5	
	Read prospectus	9	52.9	3	17.6	5	29.5	
	Discontinue the drug	12	27.9	12	27.9	19	44.2	
Knowing the purpose of the drug	Yes	33	17.6	60	31.9	95	50.5	X²=29.189 p=0.000
	No	57	43.2	40	30.3	35	26.5	
Checking the expiry dates	Yes	16	9.6	63	37.7	88	52.7	X²=59.917 p=0.000
	No	74	48.4	37	24.2	42	27.4	
Taking the drugs on time	Yes	70	47.9	40	27.4	36	24.7	X²=55.631 p=0.000
	No	20	11.5	60	34.5	94	54.0	
Source of information	Doctor	46	25.3	56	30.7	80	44.0	X²=3.995 p=0.677
	Nurse	14	28.0	18	36.0	18	36.0	
	Pharmacist	16	33.4	16	33.3	16	33.3	
	Health personnel visiting for home care	14	35.0	10	25.0	16	40.0	

It was determined that 88.8% of the elderly receiving home care obtained information about the drugs, 56.9% consulted doctors as their first source of information, 60.0% understood the information given about the drug, and 66.9% found the information sufficient (Table 4).

Table 5 shows a comparison of the distribution of some characteristics of the elderly receiving home care services according to gender. No statistically significant difference was found between the genders in terms of the first thing the elderly did when they got sick ($X^2=27.389$ $p=0.000$), when they visited the doctor ($X^2=8.625$ $p=0.013$), whether they understood the information about the drug ($X^2=5.212$ $p=0.022$), whether they knew the purpose of the drug ($X^2=41.817$ $p=0.000$), whether they checked the expiry dates ($X^2=24.771$ $p=0.000$), whether they took the drugs on time ($X^2=94.093$ $p=0.000$) or their source of information ($X^2=76.078$ $p=0.000$). No significant difference was found between the genders in terms of chronic diseases ($X^2=0.100$ $p=0.752$), following the doctor's instruction ($X^2=0.164$ $p=0.686$), what they did when they had problems with the drug ($X^2=5.249$ $p=0.154$),

Table 6 shows a comparison of the distribution of some characteristics of the elderly receiving home care services according to education level. No statistically significant difference was found between education levels in terms of the first thing the elderly did when they got sick ($X^2=65.268$ $p=.000$), when they visited the doctor ($X^2=64.608$ $p=.000$), whether they followed doctor's instructions ($X^2=140.083$ $p=.000$), whether they understood the information about the drug ($X^2=24.075$ $p=.000$), whether they knew the purpose of the drug ($X^2=29.189$ $p=.000$), whether they checked the expiry dates ($X^2=59.917$ $p=.000$) or whether they took the drugs on time ($X^2=55.631$ $p=.000$). No significant difference was found between education levels in terms of chronic disease ($X^2=1.105$ $p=.576$), what to do when facing problems ($X^2=9.779$ $p=.134$) or source of information ($X^2=3.995$ $p=.677$)

Discussion

It is known that doctors, nurses, other healthcare professionals, patients/patients' relatives, pharmaceutical manufacturers, the regulatory authority and the media all play a role in the rational drug use process [17]. With aging, medical problems increase, and significant differences can be seen among countries and regions in terms of drug use. Sociocultural factors such as the habit of admitting to a doctor may also be effective in drug use [18].

In this study, it was determined that more than half of the elderly preferred to first consult a doctor in case of illness. 75.5% of the elderly in the study of Yapıcı et al. [9] and 89.3% of the elderly in the study of Uğrak et al. [19] stated that they first consult a doctor in case of illness. Consulting a doctor as the first thing to do in case of illness has positive results on rational drug use. However, although more than half of the participants (54.1%) stated that they consulted a doctor in this study, the result was not at the desired level compared to other studies [9, 19]. This is important in terms of showing the awareness level of the elderly about rational drug use.

It is a rational approach to admit to healthcare personnel when facing problems about the drug, and this rate was found to be high in the study (74.4%). This level has been reported to be high in

many studies 70.6% in Esin et al. [20], 82.4% in Yılmaz et al. [21], 87.6% in Uğrak et al. [19], of 46.7% in Büyükturan et al. [10] and 40.6% in Pınar et al. [22]. The high rate of consulting healthcare professionals when patients experience any problem about the drugs suggests that there is no problem in accessing healthcare.

It was determined that more than half (66.6%) of the elderly individuals participating in the study used non-prescription drugs. Drugs used without a doctor's prescription and outside of a doctor's control are a condition that prevents rational drug use. Yapıcı et al. [9] reported that 31.3% of their participants took non-prescription drugs from pharmacies, most of which were (90.4%) painkillers [9]. Non-prescription drug use rates were reported as 77.3% in Ekenler and Koçoğlu [23] and 57.2% in Pınar et al. [22]. In the study of Tarhan et al. [24] on the elderly population, it was found that 32.7% of the participants had 1-5 boxes of drugs, 7.3% had 6-10 boxes and 16.4% had 10 or more boxes. Similarly, in the study of Ouédraogo et al. [25] on individuals with a certain health problem, it was stated that about 75% of the individuals had the habit to use drugs on their own initiative. Considering most elderly individuals admitted to healthcare personnel when they had problems with the drugs, it is not an expected result to have high rate of non-prescription drug use. This can be explained by the cultural characteristics of elderly individuals. In addition, this suggests that they were affected by the environment (relatives, friends, media, etc.).

In this study, painkillers constituted the most common types of drugs that individuals used without visiting a doctor at a rate of 83.4%. This rate was found to be 28.3% in Yapıcı et al. [9]. In the study of Yapıcı et al. [9], it was reported that the highest rate (90.4%) of the non-prescription drugs bought from pharmacies belonged to painkillers. This result supports the non-prescription drug use of the elderly.

Reading the prospectus of a drug is among the factors showing the appropriateness of the drug. In this study, rates of the elderly to read prospectus were not at the desired level (35.3%). This rate was reported as 65.1% in Özkan et al. [26], 91.2% in Esin et al. [20], 73.3% in Yapıcı et al. [9], 46.7% in Büyükturan et al. [10]. This is thought to result from the low education level of elderly individuals.

The incidence of many chronic diseases increases with advancing age and requires multiple drug use. In this study, 85% of the patients stated that they had a chronic disease. In addition, 39.8% of the individuals stated that they used three or more drugs. It was determined that 95% of individuals aged 65 or above in the USA used at least one drug per week. More than 40% of patients use five or more drugs per week, and 12% use ten or more drugs [27]. In a study on 1233 elderly individuals aged 65 or above in 12 different cities of Turkey, 23.2% of the participants stated that they used only one drug, 17% used 2 drugs, 19.2% used 3 drugs, and 38.2% used 4 or more drugs [3]. In a study by Jhaveri et al. [28] on 676 elderly individuals, it was determined that the individuals used many inappropriate drugs.

In this study, 40.6% of the elderly stated that they recommended drugs to those with similar complaints. This rate was found to be 21.8% in Yılmaz et al. [21], 22.6% in Özkan et al. [26], 14.9% in Pınar et al. [22], 25.3% in Yapıcı et al. [9], and 17.2% in

Karataş et al. [29]. It is noteworthy that the drug recommendation rate was higher in the elderly individuals in the current study compared to other studies in the literature. This suggests that elderly individuals are significantly affected by each other and their environment regarding drug use. This shows that irrational drug use is higher in elderly individuals.

Evaluating the first behaviors of the elderly when they get sick according to gender, it was determined that women were more likely to visit a doctor first. When asked about when they visited a doctor, it was found that men only did so when they got sick and better understood the information about the drug ($p < 0.05$). In another study, it was stated that no relationship was found between gender and drug compliance, but the results were in favor of women [30]. In the study of Şahin et al. [31], no relationship was found between the gender and drug use behaviors of elderly individuals. The results of the present study are thought to be due to the cultural characteristics of elderly individuals. Because of the cultural characteristics of the region, it is perceived as a weakness for men to consult a doctor frequently.

It was observed that, as the education levels of the elderly increased, the rates of admitting to a doctor increased, they went to the doctor's follow-ups at regular intervals, they followed the doctor's instructions, their ability to understand the information about the drug increased, they checked the purpose and expiry dates of drugs and took the drugs on time ($p < 0.05$). In the study of Pınar et al. [22], when the patients were compared in terms of requesting information from the doctor according to their education level, it was seen that as the education level increased, the likelihood of requesting information also increased and that a positive awareness for rational drug use was created. As education level increases, it is an expected result for positive behaviors regarding drug use and drug compliance to increase as well. However, unlike our research, Yapıcı et al. [9] found the rates of drug use without consulting a doctor to be higher in the high education level and younger age groups. Şahin et al. found a significant difference between education level and drug use behaviors [31].

Conclusion

It was found that most individuals participating in the study used non-prescription drugs. It was seen that the knowledge of the participants on the side effects of the drugs, checking the expiry dates and reading the prospectus were not at the desired level. It was determined that age, education level, marital status and income status of the elderly affected many factors regarding drug use.

Considering the problems to be caused by using non-prescription drugs, not reading the prospectus and not checking the expiry dates, it is recommended to create, implement and ensure the continuity of education programs to create a behavioral change in individuals and to expand studies on awareness via social media.

Considering the care needs of the elderly receiving home care, caregivers are recommended to conduct awareness studies on rational drug use.

We recommend that studies are conducted to raise awareness not only for the elderly population and caregivers, but also for pharmacists.

Conflict of interests

The authors have no conflicts of interest to declare.

Financial Disclosure

All authors declare no financial support.

Ethical approval

Permission was obtained from the Ethics Committee of Harran University (decision no. 11, session no. 10, dated 23.10.2014), Public Health Directorate and the individuals who participated in the study.

References

1. Konak A, Çiğdem Y. The fact of ageing: the case of Sivas elderly house. Cumhuriyet Üniversitesi Sosyal Bilimler Dergisi. 2005;29:23-63.
2. Turkish Statistical Institute, Seniors with statistics, 2018; https://hsqm.saglik.gov.tr/depo/birimler/kronik-hastaliklar-engelli-db/hastaliklar/Yasli_Sagligi/raporlar_istatistikler/TUIK_Yasli_Istatistik_2018.pdf, Access data 14.04.2020.
3. Kutsal G.Y., Polypharmacy in elderly, Turk J Geriatr. 2006;37-44.
4. Nahin RL, Pecha M, Welmerink DB, et al. Concomitant use of prescription drugs and dietary supplements in ambulatory elderly people. J Amer Geriatr Soc. 2009;57:1197-205.
5. Hinshaw T, Kapusnik-Uner J, Zarowitz B, et al. Identifying knowledge gaps in the labeling of medications for geriatric patients. P and T. 2013;38:535-40.
6. Akıcı A, Kalaça S, Uğurlu MU, et al. Evaluation of rational drug use of general practitioners' in management of elderly patients. Turk J Geriatr. 2001;4:100-5.
7. Solmaz T. Medication use and Self-Medication use ability in elders 65 years and over living in home. Master Thesis. Selçuk University, Konya, 2008.
8. Evci D, Kızılay B. Correlation of hand grip strength and disability in daily living activities in geriatric patients. Turk J Geriatr. 2001;4:11-4.
9. Yapıcı G, Balıkcı S, Uğur Ö. Attitudes and behavior of drug usage in applicants to primary health care center. Dicle Med J. 2011;4:458-65.
10. Büyükturan Ö, Büyükturan B. Attitudes and behaviors of drug use in a group of patients and their relatives. Sakarya Med J. 2017;7:211-6.
11. Folstein MF, Folstein SE, McHugh PR. Mini-mental state. J Psychiatr Res. 1975;12:129-133.
12. Güngen C, Ertan T, Eker E, et al. Reliability and validity of the standardized mini mental state examination in the diagnosis of mild dementia in Turkish Population. Turk J Psych. 2002;13:273-81.
13. Ganguli M, Ratcliff G, Chandra VA. Hindi version of the MMSE: The development of a cognitive screening instrument for a largely illiterate elderly population in India. Int J Geriatr Psychiatry. 1995;10:367-77.
14. Ertan T, Eker E, Güngen C et al. The Standardized mini mental state examination for illiterate Turkish elderly population. 2th International Symposium on Neuropsychological and Neuropsychological Assessment of Mental and Behavioral Disorders, August 28-30 1999, Bursa, Turkey.
15. Molloy DW, Standish TIM. Mental status and neuropsychological assessment: a guide to the standardized mini-mental state examination. Int Psychogeriatr. 1997;9:87-94.
16. Maral I, Aslan S, İlhan MN, et al. Depression and risk factors: a comparative study on elderly persons living at home and in nursing homes. Turkish J Psych. 2001;12:251-9.
17. Sakarya S, The role of users in rational drug use, Türkiye Klinikleri J Pharmacol-Special Topics. 2015;3:94-8.
18. Oktay Ş, Akıcı A. Drug use and decision making process for rational pharmacotherapy in elderly. Turk J Geriatr. 2001;4:127-33.
19. Uğrak U, Teke A, Cihangiroğlu N, et al. Inpatients' attitudes towards the rational use of drugs at a cardiology ward. TAF Prev Med Bull. 2015;14:137-44.
20. Esin MN, Bulduk S, Dural Ç, et al. Adult individuals' drug use behaviors. İstanbul University, Florence Nightingale J Nurs. 2007;15:139-45.
21. Yılmaz M, Kırbıkoğlu Fİ, Arıcı Z, et al. Determination of rational drug use by patients at a dentistry faculty hospital. Erciyes Üniversitesi Sağlık Bilimleri Fakültesi Dergisi. 2014;2:39-47.
22. Pınar N, Karataş Y, Bozdemir N, et al. Medicine use behaviors of people in the city of Adana, Turkey. TAF Prev Med Bull. 2013;12:639-50.

23. Ekenler, Ş, Koçoğlu D. Individuals' knowledge and practices about rational drug use. *J Hacettepe Univ F Nurs*. 2016;3:44-55.
24. Tarhan G, Uslu AU, Kavaklı Ö ,et al. Rational drug use in elderly patients. *Osmang J Med*. 2020;42:130-9.
25. Ouédraogo D-D, Zabsonré JW, Tiendrebeogo EZ, et al. Prevalence and factors associated with self-medication in rheumatology in Sub-Saharan Africa. *Eur J Rheumatol*. 2015;2:52-6.
26. Özkan S, Özbay OD, Aksakal N, et al. Attitudes during illness and drug usage habits of patients attending to a university hospital. *Turk Arm Forc Prevent M Bull*. 2005;4:223-37.
27. Kaufman DW, Kelly JP, Rosenberg L, et al. Recent patterns of medication use in the ambulatory adult population of the United States: The Stone Survey. *JAMA*. 2002;287:337-4.
28. Jhaveri, BN, Patel, TK, Barvaliya, MJ, et al. Utilization of potentially inappropriate medications in elderly patients in a tertiary care teaching hospital in India. *Perspect Clin Res*. 2014;5:184-9.
29. Karataş Y, Dinler B, Erdoğan T, et al. Evaluation of drug use attitudes of patient and its relatives attending to Cukurova University Medical Faculty Balçalı Hospital. *Cukurova Med J*. 2012;37:1-8.
30. Camargo AL, Ferreira MBC, Heineck I. Adverse drug reactions: a cohort study in internal medicine units at a university hospital. *Eur J Clin Pharmacol*. 2006;62:143-9.
31. Şahin D.S, Özer Ö, Yanardağ M.Z. Investigation of behaviors related to drug use of the elderly individuals in terms of socio-demographic variables. *Mehmet Akif Ersoy University J Health Sci Inst*. 2018;6:15-25.