

Rational Drug Use in Geriatric Patients in the County of Gaziantep

Gaziantep İlinde Yaşlı Hastalarda Akılcı İlaç Kullanımı

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Amaç: Kronik hastalık oranı yaşla birlikte artmaktadır. Yaşlı hastalarda uzun süreli ilaç tedavilerine uyum oranı da azalmaktadır. Bununla birlikte, tedavinin başarısı ilacı akılcı olarak kullanıma da bağlıdır. Bu çalışmanın amacı kronik hastalığı olan yaşlı hastaların ilaç kullanım alışkanlıkları hakkında veri toplamaktır.

Gereç ve Yöntemler: Çalışmaya özgü anketler, kardiyoloji, kardiyovasküler cerrahi, nöroloji ve iç hastalıkları polikliniğini ziyaret eden 65 yaş üstü hastalara eğitilmiş tıbbi görüşmeci tarafından uygulandı.

Bulgular: Hastaların %31'i (59 kadın ve 55 erkek) mevcut kronik hastalık dışındaki nedenlerle ilaç kullanırken, %68'i reçetesiz olarak vitamin içeren ilaçları kullanıyordu. Katılımcıların %26'sı, doktorlarına sormadan reçeteli ilaçlar almayı bıraktığı ve %39'u ise unutkanlık nedeniyle ilaç alımını durdurmuştu. Hastaların %85'i son bir ay içinde bir veya daha fazla ilaç kullanırken, yaklaşık %49'u günde en az 4 ilaç kullanıyordu. İlaç kullanım sayısı eğitim durumuna göre değerlendirildiğinde, okuma yazma bilmeyenlerin %51'i ve üniversite mezunlarının %23'ü günde 4 ya da daha fazla ilaç kullanıyordu.

Sonuç: Çalışmamızın sonuçları, 65 yaş üstü kronik hastalığı olan hastaların günde en az 4 ilaç aldığını ve tezgah üstü kullanımın yüksek olduğunu ortaya koydu. Yaşlı hastalar, akılcı ilaç kullanımı konusunda bilgili değildi. Bu bulgular akılcı ilaç kullanımını geliştirmek için popülasyon temelli eğitim ve bölgesel ihtiyaçlara göre uyarlanmış takip programlarının uygulanması gerektiğini göstermektedir.

Anahtar Kelimeler: Yaşlı, ilaç kullanımı, uyum oranı, polifarmasi

Aim: The incidence of chronic diseases increases with advancing age. On the other hand, as people get older, the rate of adherence to long-term therapeutic regimens decreases. However, the success of any treatment depends on adherence to medication. The aim of this study was to collect data on the patterns of medication use in older patients with chronic diseases.

Material and Methods: Study-specific surveys were administered by trained medical interviewers to geriatric patients who visited the cardiology, cardiovascular surgery, neurology, and internal medicine outpatient clinics.

Results: Of 114 patients (59 women and 55 men) enrolled in the study, 31% used drugs for reasons other than their current chronic conditions, whereas 68% used over-the-counter vitamin supplements. Twenty-six percent of the patients stopped taking prescribed drugs without consulting their physicians and 39% stopped due to forgetfulness. While 85% of the patients used one or more drugs in the previous month, approximately 49% used at least 4 drugs per day in the same period. When drug consumption was assessed based on educational status, it was found that 51% of those who were illiterate and 23% of the university graduates used 4 or more drugs per day.

Conclusions: The results of our study revealed that geriatric patients with chronic diseases took at least 4 drugs per day and the frequency of over-the-counter medication use was high. They were not knowledgeable about rational drug use. These findings suggest that population-based education, and follow-up programs tailored according to regional needs should be implemented to improve rational drug use.

Keywords: Older patients, drug utilization, compliance rate, polypharmacy

INTRODUCTION

Today, the world population is getting older due to several factors including improved access to healthcare and advances in medicine, developing economic and sociocultural conditions and decreased birth rate. This is particularly remarkable in developed countries (1). The prolongation of human life, the increase in the prevalence of chronic diseases and the physiological changes caused by aging bring many problems. One of these problems is the drug use in the elderly (1-3).

Increased number of chronic medical conditions and greater use of prescription drugs as well as alternative therapies and non-prescription drugs in older people account for polypharmacy and drug interactions in the elderly (3-4). In addition, older adults may experience problems when taking a combination of multiple drugs at the same time, possibly leading to medication errors (5).

Polypharmacy is defined as the concurrent use of 4 drugs or more per person (6-8). Polypharmacy is problematic for older patients because it may increase the risk of adverse effects and drug interactions. The risk of adverse drug reactions is strongly associated with increasing number of drugs taken (9). Polypharmacy also increases the risk of geriatric syndromes (cognitive impairment and delirium, falls and hip fractures, urinary incontinence), and diminished functional status. The frequency of polypharmacy increases with aging, varies among countries and is around 35-40% in patients aged 75 years and over (9-10). It also varies between the older living in the community and the older living in nursing homes. The prevalence of polypharmacy among patients living in the community was reported as 41% in Iceland, 43.4% in the US, 35.8% in Australia, and 46.8% in Italy (11-13). It was also reported that approximately 40% of the older people who lived in nursing homes in the US used 9 or more drugs concurrently (14).

This was a descriptive study aimed to evaluate the knowledge, attitudes, and behaviors of geriatric patients living in the county of Gaziantep regarding drug utilization.

MATERIAL AND METHODS

Our study included 114 patients (59 women and 55 men) aged 65 years and older who were referred to Cardiology, Cardiovascular Surgery, Internal Medicine, Neurology Outpatient Clinics at Sanko University Sani Konukoglu Training and Research Hospital and who agreed to participate in the study.

The study inclusion criteria included age 65 years and older, willingness to participate in the study, being able to understand and respond to the questions and having no cognitive problem. The sociodemographic characteristics of the older individuals and their knowledge and attitudes regarding drug utilization and medication compliance rates were assessed by a questionnaire form developed specifically for the study (15-16). The data were collected in a private room at the hospital through face-to-face interviews conducted by medical students studying at Sanko University Medical Faculty who were specially trained for this study. Ethics committee approval was obtained before initiation of the study.

The collected data were evaluated using the SPSS (Statistical Package for the Social Sciences) software package, version 22.0. Numbers and percentages were used for descriptive statistics. Mean and standard deviation or median and minimum-maximum values were used for continuous variables.

RESULTS

A total of 114 patients including 59 women and 55 men participated in the study. Thirty percent of the patients were 75 years of age or older. The

Table I. The sociodemographic characteristics of the study sample

Sociodemographic characteristics		n	%
Gender	Male	55	48
	Female	59	52
Age	65-69	47	41
	70-74	33	30
	75-79	34	30
Education level	Illiterate	39	34
	Primary School	34	30
	Secondary School-High School	28	25
	University or higher	13	11
Occupation	Housewife	50	44
	Retired	39	34
	Civil Servant	7	6
	Worker-Officer	4	4
	Self-Employment	14	12
Diabetes Mellitus		42	37
Cardiovascular disease		45	40
Hypertension		65	57
Heart failure		17	15
Hyperlipidemia		44	39
Stroke		2	2
Rheumatic diseases		6	5
Drug use per neighbours' advice		27	24
Discontinuation of drugs without consulting the doctor		30	26

n=number of individuals.

sociodemographic characteristics of the participants are summarized in Table I. Thirty four percent of the participants were illiterate and 11% were university graduates. Four percent were workers/officers, 44 % were housewives, 12 % were self-employed, 6 % were civil servants and 34 % were retired. Forty percent had cardiovascular disease, 37 % had diabetes, 57% had hypertension, 15 % had heart failure and 2% had a history of stroke (Table I).

Table II. Number of drugs used by senior

Number of drugs used per person	Number of individuals (n)	%
0	17	15
1-3	41	36
≥4	56	49

n=number of individuals.

Eighty five percent of the patients used one or more drugs in the previous month and approximately 49 % used at least 4 drugs daily (Table II). Thirty percent of the patients used drugs for reasons other than their current chronic conditions, whereas 68% used over-the-counter (OTC) drugs or vitamins.

DISCUSSION

Aging is a process in which the ability of an organism to adapt to the environment progressively decreases and there is a decline in the reserve capacities of all body functions. The use of drugs in older individuals differs from young individuals due to multiple drug use, diminished compliance, altered tissue responses, pharmacokinetic changes, genetic variations, and environmental factors (5). There are few studies in our country about the drug

utilization patterns in older people. Ates Bulut et al. reported that the frequency of polypharmacy in older patients was 54.5 % (17). In our study, the prevalence of polypharmacy was 49 %. However, there is a need for data on drug use and on the prevalence of chronic diseases for planning healthcare services offered to older people. There has been a tendency for the public to perceive OTC medicines to be safer than prescription medicines (18-19). However, it has been recognized that OTC medicines have the potential for harm as well as benefit (20). This may result in what has been variously referred to as the misuse or abuse of OTC medicines and their potential to cause addiction and dependency. . Moreover, 60% of the women and 57 % of the men used OTC painkillers at least once a month. In a study conducted in 1800 older individuals aged 75 years and older, it was reported that the use of painkillers was more common in women than in men.

It is suggested that the reason for greater use of painkillers among women in this study is the fact that osteoporosis and rheumatic diseases are seen more frequently in women than in men (21). In our study, the use of painkillers was also slightly more common in women than in men.

Alparslan and Bostan (2010) reported that 11 % of the older individuals used drugs without consulting a physician and 9% gave drugs to other people around them. The findings obtained from our study show that older people need educational support for rational drug use (RDU). One of the most common problems in the elderly is forgetfulness that can occur due to the decline in the cognitive functions. In our study, we also observed that one of the most common problems in older individuals was forgetfulness, resulting in missed doses (38.5%). Forgetfulness that can appear at different levels in older needs to be addressed in terms of drug use problems (22).

Currently, the prevalence and incidence of cardiovascular disease (CVD) are high in the

elderly and population aging is a global phenomenon. This is a result of longer average life expectancy which is associated with improved treatment modalities and care for older people, especially in developed countries. Heart failure is the most common cause of hospitalization among geriatric patients and it has become one of the most expensive syndrome to manage due to the rate of rehospitalizations and multiple drug use (23). Hypertension is another common problem in the elderly (24). The incidences of hypertension and heart failure in our study were 57% and %15, respectively. The widespread consumption of meat and animal fats as part of the culinary tradition in Gaziantep is a major risk factor for hypertension. It is also considered that the fact that older people spend most of their time at home due to cultural reasons and climate conditions and have a more sedentary lifestyle increases the risk for hypertension and CVD.

Dolu and Bilgili found that 47.4% of the older individuals did not know the effects of drugs and only 42.1% were informed about the prescribed drugs (25). In a study conducted in a nursing home by Alparslan and Bostan, 17% of the older individuals knew the names of their drugs, 31% knew when and how to take the doses of their drugs, 72 % knew the effects of their drugs, and 14 % knew the side effects of their drugs (26). Tokem and Karadakovan (27) found that 16% of the older individuals were not informed about their medications. In our study, 49% of the patients were never informed about drugs by their physicians. The findings of the current study and other studies suggest that older people are not sufficiently informed about drug use.

CONCLUSIONS

Our study determined that the majority of older individuals used 4 or more drugs, almost half of them did not know the effects of the prescribed drugs and did not have sufficient knowledge about the side effects. Many of them needed

help in taking drugs, and the major cause of non-compliance to drug therapy was forgetfulness.

Since chronic illnesses are common in the geriatric patients, the majority of them uses at least 4 drugs. Elderly people make significant medication mistakes, potentially leading to adverse health effects. The treatment regimen prescribed to a patient can be considered "inappropriate" in many different situations. A drug is considered to be inappropriate if it has an unacceptable side effect profile, if it requires close monitoring when this is not possible, if it has an important but ignored interaction with other drugs used simultaneously, if there is a better alternative (e.g., cheaper, favorable side effect profile, less frequent dosage), and if there is no indication to use.

One of the ways to minimize the problems that may arise due to polypharmacy in older population is to arrange treatment regimens and to prescribe drugs in accordance with the principles of RDU. Multiple drug use is associated with reduced treatment compliance. Based on aforementioned considerations, the following can be recommended:

-Physicians and nurses who care for the older should check the drugs previously used by the older and give information about drugs and their side effects,

- Home visits should frequently be conducted since the majority of the older need help on drug use,

- Support should be given to the older for forgetfulness (Objective cognitive tests [e.g. abbreviated Mental Test and Mini-Mental State Examination] and brain imaging are adjuncts that help in formulating the diagnosis. Referral to hospital memory clinic activates a multidisciplinary team approach to dementia, including clinical consultation, dementia counselling, physiotherapy sessions on gait/fall

prevention, occupational therapy sessions on cognitive stimulation and caregiver training).

Conflict of interest

The authors declare that they have no competing interests.

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