

## EVALUATION OF PHARMACY STUDENTS' KNOWLEDGE AND ATTITUDES REGARDING GERIATRIC CARE

### Eczacılık Öğrencilerinin Geriatrik Bakıma İlişkin Bilgi ve Tutumlarının Değerlendirilmesi

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#### ABSTRACT

The aim of this study was to evaluate the knowledge and attitudes of Suleyman Demirel University Faculty of Pharmacy 4th grade students about geriatric care. This study is a cross-sectional online survey study. The questionnaire was created with the Google form and the study was carried out between May 9 and May 23, 2022. 64.4% of the respondents believed that body fat decreased in the elderly. 17.8% and 23.3% of the respondents, respectively, agreed with the statement that diclofenac and imipramine are inappropriate for the elderly according to the Beer list. 83.6% of the respondents believed that older adults have more than one chronic disease, more than one drug, and allergic reactions to drugs. 24.6% of the respondents agreed with the idea that enough attention is paid to geriatric health issues in our country. This study shows that although students' attitudes towards geriatric care are generally sufficient, there are some deficiencies in their knowledge levels. In pharmacy undergraduate education, importance should be given to courses such as rational drug use and geriatric care in the elderly.

**Anhtar kelimeler:** Attitude, Geriatric care, Knowledge, Pharmacy students.

#### ÖZ

Bu çalışmanın amacı Süleyman Demirel Üniversitesi Eczacılık Fakültesi 4. sınıf öğrencilerinin geriatrik bakım konusundaki bilgi ve tutumlarını değerlendirmektir. Bu çalışma, kesitsel bir çevrimiçi anket çalışmasıdır. Anket Google formu ile oluşturuldu ve çalışma 9 Mayıs–23 Mayıs 2022 tarihleri arasında gerçekleştirildi. Ankete katılanların %64,4'ü yaşlılarda vücut yağının azaldığına inanmaktaydı. Katılımcıların, sırasıyla, %17,8'i ve %23,3'ü Beer listesine göre diklofenak ve imipraminin yaşlılar için uygun olmadığı ifadesine katıldı. Ankete katılanların %83,6'sı yaşlıların birden fazla kronik hastalığı, birden fazla ilacı ve ilaçlara karşı alerjik reaksiyonları olduğuna inanmaktaydı. Ülkemizde geriatrik sağlık konularına yeterince önem verildiği görüşüne katılımcıların %24,6'sı katılmaktaydı. Bu çalışma öğrencilerin geriatrik bakıma ilişkin tutumları genel olarak yeterli olsa da, bilgi düzeylerinde birtakım eksiklikler olduğunu göstermiştir. Eczacılık lisans eğitiminde, yaşlılarda akılcı ilaç kullanımı ve geriatri bakımı gibi derslere önem verilmelidir.

**Keywords:** Bilgi, Eczacılık öğrencileri, Geriatrik bakım, Tutum.

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## INTRODUCTION

By 2050, it is predicted that the adult population aged 60 and over will increase exponentially in most countries in the world (Desa, 2015). Currently, 24.1% of households in Turkey have at least one elderly person. In addition, the population aged 65 and over, which was 6 million 651 thousand 503 people in 2016, increased by 24 percent in the last 5 years and became 8 million 245 thousand 124 people in 2021. According to population projections, it is predicted that the proportion of the elderly population will be 22.6% in 2060 and 25.6% in 2080 (TUIK, 2021).

The aging of the population increases the burden on the existing health systems due to the fact that the elderly population has more than one disease and tends to benefit from health services more than the young (Prince et al., 2015; Rechel et al., 2013). Memory impairment, hearing impairment, and other age-related changes in perception and deterioration in organ functions are among the most important health problems of the elderly population (Elsawy & Higgins, 2011). The elderly often have more than one chronic disease. Depending on this situation, multiple drug use and drug-drug interactions will continue to place a heavy burden on the health system (Chiatti et al., 2012; Rodrigues & Oliveira, 2016).

Pharmacists have an important role in identifying; drug-related problems in elderly patients, high-risk drugs and adverse drug reactions (Spinewine, Fialová & Byrne, 2012). Therefore, future pharmacists must be adequately prepared to recognize and evaluate the health needs of the older adult population. It is also important to sufficiently strengthen the communication and empathy skills of future pharmacists. For this reason, courses such as rational drug use and geriatric care in the elderly should be given importance in the undergraduate period (Felton, Jarrett & Meyer, 2017; Lee et al., 2019).

There is no study evaluating the knowledge and attitudes of pharmacy students about geriatric care in Turkey. Therefore, in this study, it was aimed to evaluate the knowledge and attitudes of Suleyman Demirel University Faculty of Pharmacy 4th grade students about geriatric care.

## MATERIAL AND METHODS

### Study Design and Participants

This study was a cross-sectional online survey study. This study was approved by the Suleyman Demirel University Clinical Research Ethics Committee. (Approval No: 130/19.04.2022). The survey was created with Google form. The study was carried out

between 9 May and 23 May 2022. The students were informed that participation was voluntary, would not affect their grades, and their information would be kept confidential. The first page of the survey included information about the research. Online submission of the completed survey by student participants was accepted as consent.

### **Data Collection**

The questions used for this survey were created from various literatures (Augustine, Shah, Makadia, Shah & Lee, 2014; Blebil et al., 2022; Eze, Saka, Eze, Ogbonna & Ojieabu, 2022). The survey consists of 18 questions. The first 2 questions are about the demographic information of the participants, questions 3 to 10 are about geriatric care information, and questions 11 to 18 are about geriatric care attitude.

A pilot study was conducted among 15 participants to check the comprehensibility and reliability of the questionnaire. The internal consistency of the questions obtained in Cronbach's alpha was 0.77. The questionnaire was revised according to the participants' feedback and the results of the internal validity measurement. Pilot study results were included in the total data.

### **Data Analysis**

All of the variables were categorical variables, expressed as a percentage. Chi-square test was used to compare categorical variables. A 3-point Likert scale ("Yes, No, Don't know") was used for questions about knowledge, and 5-point Likert scale ("Strongly Agree, Agree, Uncertain, Disagree, Strongly Disagree") was used for questions about attitude. In the knowledge section, correct answers are scored as 1 and incorrect answers as 0. In the attitude section, scoring was done from positive to negative attitude. "Strongly Agree" was scored as 5 points, and "Strongly Disagree" was scored as 1 point. Those above the median values of knowledge and attitude were classified as better knowledge level and better attitude level. All data were analyzed using the SPSS (Version 20) with  $p < 0.05$  as statistically significant.

## **RESULTS**

The total number of 4th graders was 79 and the questionnaire was answered by 73 people. 16 (21.9%) of the respondents were male students. Nearly half of the respondents were between the ages of 20-22.

Table 1 shows the answers given by pharmacy students to knowledge questions about geriatric care. The median value for knowledge was 0.5 (0-1). 64.4% of the respondents believed that body fat decreased in the elderly, and 75.3% believed that renal clearance

decreased.17.8% and 23.3% of the respondents, respectively, agreed with the statement that diclofenac and imipramine are not suitable for the elderly according to the Beer list.53.4% of the respondents believed that delirium is not the same as dementia. 71.2% of the respondents declared that the use of painkillers in the elderly was not a risk factor for falls.

**Table 1.** Knowledge of Pharmacy Students About Geriatric Care

Variables	Item	n (%)
Decreased body fat is one of the pharmacokinetic changes seen in the elderly.	Yes	47 (64.4)
	No	9 (12.3)
	Don't know	17 (23.3)
Decreased renal clearance is one of the pharmacokinetic changes seen in the elderly.	Yes	55 (75.3)
	No	5 (6.8)
	Don't know	13 (17.8)
According to the Beer's list, diclofenac is inappropriate for use in the elderly.*	Yes	13 (17.8)
	No	24 (32.9)
	Don't know	36 (49.3)
According to the Beer's list, imipramine is inappropriate for use in the elderly.*	Yes	17 (23.3)
	No	10 (13.7)
	Don't know	46 (63)
Delirium is also known as dementia.	Yes	27 (37)
	No	39 (53.4)
	Don't know	7 (9.6)
Vitamin D is important and necessary for the health of the elderly.	Yes	69 (94.5)
	No	-
	Don't know	4 (5.5)
Short-term memory loss is one of the first signs of Alzheimer's disease.	Yes	58 (79.5)
	No	9 (12.3)
	Don't know	6 (8.2)
Which is not a risk factor for falls in the elderly?	Presence of polypharmacy	8 (11)
	Chronic disease history	7 (9.6)
	Sedative medications	6 (8.2)
	Painkiller use	52 (71.2)

\* Created according to the 2019 Beer's Criteria.

Table 2 shows the attitudes of pharmacy students about geriatric care.83.6% of the respondents believed that older adults have more than one chronic disease, more than one drug, and allergic reactions to drugs.91.7% of the respondents agreed that the elderly are at greater risk for drug interactions, drug side effects and polypharmacy.76.8% of the respondents thought that the care of elderly patients is the responsibility of the society. However, 24.6% of the respondents agreed with the idea that enough attention is paid to geriatric health issues in our country .69.9% of the respondents had a better knowledge level and 89% had a better attitude level.

**Table 2.** Attitude of Pharmacy Students About Geriatric Care

Variables	Item	n (%)
Older adults have multiple chronic diseases, multiple medications, and allergic reactions to medications.	Strongly agree	17 (23.3)
	Agree	44 (60.3)
	Uncertain	9 (12.3)
	Disagree	2 (2.7)
	Strongly disagree	1 (1.4)
The elderly are at greater risk for drug interactions, drug side effects, and polypharmacy.	Strongly agree	42 (57.5)
	Agree	25 (34.2)
	Uncertain	5 (6.8)
	Disagree	-
	Strongly disagree	1 (1.4)
Elderly patients have lower patient compliance.	Strongly agree	32 (43.8)
	Agree	26 (35.6)
	Uncertain	8 (11)
	Disagree	6 (8.2)
	Strongly Disagree	1 (1.4)
Older adults have poor memory or cognitive deficits.	Strongly agree	19 (26)
	Agree	40 (54.8)
	Uncertain	9 (12.3)
	Disagree	4 (5.3)
	Strongly disagree	1 (1.4)
Older adults have physical and/or sensory deficits such as walking, vision or hearing problems.	Strongly agree	20 (27.4)
	Agree	39 (53.4)
	Uncertain	11 (15.1)
	Disagree	2 (2.7)
	Strongly disagree	1 (1.4)
It is important for healthcare providers to understand the family conditions and social environment of their geriatric patients.	Strongly agree	43 (58.9)
	Agree	25 (34.2)
	Uncertain	4 (5.5)
	Disagree	-
	Strongly disagree	1 (1.4)
Taking care of elderly patients is the responsibility of society.	Strongly agree	18 (24.7)
	Agree	38 (52.1)
	Uncertain	11 (15.1)
	Disagree	3 (4.1)
	Strongly disagree	3 (4.1)
In our country, enough attention is paid to geriatric health issues.	Strongly agree	6 (8.2)
	Agree	12 (16.4)
	Uncertain	31 (42.5)
	Disagree	20 (27.4)
	Strongly disagree	4 (5.5)

Table 3 shows the answers given to the questions about knowledge and attitude about geriatric care. The median value for attitude was 4 (4-4.5). There was no statistically significant difference between gender and better knowledge and attitude level in geriatric care. ( $p > 0.05$ ). There was no statistically significant difference between age and better geriatric care knowledge level ( $p > 0.05$ ), but respondents older than 22 years showed statistically better geriatric care attitude ( $p < 0.05$ ).

**Table 3.** Responses to Questions About Knowledge and Attitude About Geriatric Care

Variables	Knowledge Level			Attitude Level		
	Less (%) n	Better (%) n	P	Less (%) n	Better (%) n	P
Gender						
Male	7 (68.2)	9 (82.4)	0.222	3 (37.5)	13 (20)	0.361
Female	15 (31.8)	42 (17.6)		5 (62.5)	52 (80)	
Age Group						
20-22	10 (45.5)	28 (54.9)	0.627	8 (100)	30 (46.2)	0.005
>22	12 (54.5)	23 (45.1)		0 (0)	35 (53.2)	

## DISCUSSION

In our study, we evaluated the knowledge and attitudes of Suleyman Demirel University Faculty of Pharmacy 4th grade students about geriatric care. Since there is no study on this subject in Turkey, our study is important.

The faculty in which the study was conducted is a newly established faculty. Therefore, since the highest grade level was 4th grade at the time of the study and there was no 5th grade, the study was carried out only in 4th grades. In the faculty where the study is carried out, compulsory clinical pharmacy course is given for 3 hours per week for 2 semesters and compulsory rational drug use course for 2 hours per week for 1 semester. These courses discuss drug use in the geriatric population. The situation is similar in most other pharmacy faculties, but the clinical pharmacy course is referred to as pharmaceutical care and pharmacotherapy.

In our study, although the students' attitudes towards geriatric care were generally sufficient, there were some deficiencies in their knowledge levels. Most participants thought that body fat decreased in the elderly and did not know the drugs that were not suitable according to Beer's list. This shows the lack of knowledge about drug use in the elderly. Many respondents (83.6% and 91.7%, respectively) agreed with the idea that elderly patients have many chronic diseases and multiple drugs, and are exposed to drug-drug interactions and drug adverse effects, which was higher than a study conducted in Nigeria (73.9%, 72.5%, respectively) (Eze et al., 2022). Pharmacy students should have knowledge of understanding and appropriately communicate with older adults and how to reduce polypharmacy. In addition, older adults need to know drug-drug interaction management and inappropriate drugs (Fialová & Onder, 2009; Holmes, Hayley, Alexander & Sachs, 2006).

In our study, the attitude towards geriatric care was generally positive. Most of the respondents believed that it was the community's responsibility to care for their elderly patients (76.8%), which is comparable to the study conducted in Malaysian (Blebil et al.,

2022). Unfortunately, very few of the respondents (24.6%) believed that enough attention was paid to geriatric health issues in our country. In fact, Turkey has made progress in geriatric care. In our country, elderly people are provided with services in nursing homes, elderly care centers, elderly solidarity centers, elderly care and rehabilitation centers. Kızılay and Bag-Kur are among the important institutions that take care of the elderly (Gürer, Çırpan, & Özlen, 2019).

Our results were consistent with some studies conducted in medical school, nursing and health science students (Alkaya & Okuyan, 2017; Fitzgerald et al., 2003; Singh, Subramaniam, Rahman, Rusly & Ghazali, 2018). In a study conducted with nursing students, it was found that the attitude towards the elderly was positive and it was emphasized that the subjects related to elderly care should be given more place in undergraduate education (Alkaya & Okuyan, 2017). A study of medical school students found that they had little knowledge of aging, moderately positive attitudes towards older adults, and low interest in geriatric medicine (Fitzgerald et al., 2003). In the study conducted with health science students, students exhibited moderate knowledge and positive attitudes towards aging. In the study, the authors proposed to improve the existing geriatric care curriculum with the integration of experiential learning (Singh, Subramaniam, Rahman, Rusly & Ghazali, 2018).

One of the limitations of the study is the inability to generalize the results because it was conducted on a limited number of students in only one university's pharmacy faculty. It would be beneficial to conduct new studies with larger sample groups in Turkey.

## **CONCLUSION**

This study shows that although students' attitudes towards geriatric care are generally sufficient, there are some deficiencies in their knowledge levels. It is important to increase the knowledge and attitudes of future pharmacists about geriatric care. In pharmacy undergraduate education, importance should be given to courses such as rational drug use and geriatric care in the elderly. In addition, after graduation, geriatric care courses and training for pharmacists should be continued.

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