

THE EVALUATION OF HEALTH SCHOOL STUDENTS RATIONAL DRUG USE KNOWLEDGE AND HABITS

SAĞLIK YÜKSEKOKULU ÖĞRENCİLERİNİN AKILLI İLAÇ KULLANIM BİLGİ VE ALİŞKANLIKLARININ DEĞERLENDİRİLMESİ

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ABSTRACT

Unnecessary and improper medication use are problems that affect public health negatively. In our country, a significant portion of health expenditures is spent on medications. This study was aimed to evaluate the rational drug use knowledge and behaviors of students at Siirt University Health School.

The study was carried out face to face with the participation of 568 students. The survey was carried out with the method of application under observation. The research population in which the questionnaire could be applied consisted of 980 students. Participation in the survey required volunteering. A questionnaire form was applied to students about their rational drug use information. Data were analyzed descriptively and independent T-test using SPSS 22. 0 package program.

The students stated that they kept the residual drugs after the treatment in 51.6% to use when they were needed, and they kept the cold chain drugs at 58.3% on the cover of the refrigerator. When they wanted to use the drugs again, 34.1% do not want to take medicine if they are not ill. It is recorded that the painkillers are the first medicine to be found at home when it will be needed, the second is antibiotics and the 3rd is the ointments. 73.6% of the students do not use medication prescribed by the advice of their neighbors or relatives. 71.5% of the students said no to the question of if they recommend drugs to their relatives. 62.6% of the students stated that they did not use antibiotics and vitamins by themselves. 58.5% of the students learn the knowledge of medication use from the medication prospectus. 4.8% of the students accept the equivalent medications that were recommended by the pharmacist.

It has been learned that students should increase their knowledge and behavior levels related to rational drug use. Wrong and unnecessary use of drugs can be prevented by explaining the side effects, active substances in drugs, and how they affect metabolism at the molecular level.

Keywords: Rational Drug Use, Knowledge, Habits

ÖZET

Gereksiz ve yanlış ilaç kullanımı halk sağlığını olumsuz etkileyen sorunlardır. Ülkemizde sağlık harcamalarının önemli bir kısmı ilaçlara harcanmaktadır. Bu çalışmanın amacı, Siirt Üniversitesi Sağlık Yüksekokulu öğrencilerinin akılcı ilaç kullanım bilgi ve davranışlarını değerlendirmektir.

Araştırma 568 öğrencinin katılımıyla yüz yüze gerçekleştirilmiştir. Anket gözlem altında uygulama yöntemi ile gerçekleştirilmiştir. Anketin uygulanabileceği araştırma evreni 980 öğrenciden oluşmakta idi. Ankete katılım gönüllülük gerektiriyordu. Öğrencilere akılcı ilaç kullanım bilgilerine yönelik bir anket formu uygulanmıştır. Veriler betimsel ve bağımsız t-testi ile SPSS 22.0 paket programı kullanılarak analiz edildi.

Öğrencilerin %51.6'sı tedavi sonrası kalan ilaçları ihtiyaç duyduğunda kullanmak üzere sakladıklarını, %58,3'ü soğuk zincir ilaçlarını buzdolabının kapağında sakladıklarını belirtmişlerdir. İlaçları tekrar kullanmak istediklerinde %34,1'i hasta değilse ilaç almak istememektedir. İhtiyaç duyulduğunda evde ilk bulunacak ilacın ağrı kesici, ikincisinin antibiyotik, üçüncünün ise merhemler olduğu kaydedildi. Öğrencilerin %73,6'sı komşu veya akraba tavsiyesi ile reçete edilen ilaçları kullanmamaktadır. Öğrencilerin %71,5'i yakınlarına ilaç tavsiye edip etmedikleri sorusuna hayır cevabını vermiştir. Öğrencilerin %62.6'sı kendi kendilerine antibiyotik ve vitamin kullanmadığını ifade etmiştir. Öğrencilerin %58.5'i ilaç kullanım bilgilerini ilaç prospektüsünden öğrenmektedir. Öğrencilerin %4,8'i eczacı tarafından önerilen eşdeğer ilaçları kabul etmektedir.

Öğrencilerin akılcı ilaç kullanımına ilişkin bilgi ve davranış düzeylerini artırmaları gerektiği öğrenilmiştir. İlaçların yan etkileri, içindeki etken maddeler ve metabolizmayı nasıl etkiledikleri moleküler düzeyde anlatılarak yanlış ve gereksiz ilaç kullanımının önüne geçilebilir.

Anahtar Kelimeler: Akılcı İlaç Kullanımı, Bilgi, Alışkanlıklar

INTRODUCTION

As stated by the World Health Organization (WHO), rational drug use (RDU) requires patients to take drugs in doses to meet their individual needs for a sufficient time and at the lowest cost for themselves and their communities[1]. The ultimate goal of RDU is to improve the quality of pharmaceutical care, minimize the cost of drug therapy, prevent adverse drug reactions and drug interactions, maximize therapeutic results and increase patient compliance [2]. Healthcare team members (doctor, nurse, pharmacist) are needed to ensure patient safety and to apply rational drug therapy. However, drugs and their use cannot be administered without prior knowledge of the patient [3]. WHO reported that more than 50% of medicines were prescribed, dispensed, or sold inappropriately while 50% of patients fail to take them correctly in the World [4]. RDU is a serious problem worldwide. Unnecessary use of drugs brings a heavy burden on the economies of developing countries such as Turkey [5]. Healthcare organizations, especially WHO, have emphasized the importance of promoting RDU and have implemented many programs promoting it since 1985. However, misprescription, distribution, and sales of more than half of the drugs and misuse by half of the patients have been reported worldwide [6]. Medicines have a very important place in human and public health because when used correctly, they can end the negative effects that threaten human life and health, but when used incorrectly, they can cause death [7]. As a result of irrational use of drugs, multiple drug use, antibiotic resistance, failure to achieve the expected effect of treatment, and an increase in the risk of blood-borne diseases are observed [8]. Apart from these, problems such as the use of medication in the wrong dose or dose range and not using the correct medication, using the injectable form when oral use is sufficient, and not choosing the right drug for the disease can be seen [9]. Also, it is accepted that some drugs are widely used, increase healthcare costs and cause side effects that may have negative consequences for humans. The best-known example of drug overuse is antibiotics, in which infectious microorganisms in humans and animals cause increased resistance to many antibiotics and thus increased inefficiencies. However, despite its importance, the issue of excessive drug and antibiotic use and the resistance it creates has not so far been the focus of drug analysts [10]. In our country, most drugs such as painkillers, antibiotics, and vitamins are used wastefully and erroneously without consulting a doctor, either with the advice of acquaintances or by the person's own decision. As a result, many intoxications or decreases in sensitivity to drugs are observed in society. There are many drawbacks of over-the-counter drug use, such as hiding the symptoms and delaying the diagnosis of the disease [11]. Self-medication without a doctor's recommendation, the habit of using the drug on the suggestion of neighbors or relatives, unknown adverse effects of medicine, a lack of information about the drug, and shortening of drug usage durations are the primary issues with RDU. In RDU, pharmacists, nurses, and other health care professionals, particularly doctors, play an important role. [12]. In a different study, it was shown that medical faculty intern students who have received RUD training are more competent in RDU than

medical faculty intern students and general practitioners who have not received this training. In a study conducted with dentists, it was observed that their skills increased as a result of rational antibiotic use training [13]. Unnecessary and wrong drug use are problems that negatively affect public health. Irrational drug use causes decreased response to treatment, drug interactions, resistance to some drugs, recurrence or prolongation of diseases, increased frequency of adverse events, and increased treatment costs.

Creating resources for health expenses is challenging the economies of all countries. A significant portion of the funds allocated to health spending in Turkey is to go to the drug. For these reasons, RDU becomes important.

This study was conducted to determine and evaluate the knowledge and behaviors of especially nursing students studying at Siirt Health School on RDU. With this study, the knowledge levels of the students were measured and it was aimed to raise awareness by giving feedback as the study was completed before graduation. It was aimed to raise awareness among students who will work as health personnel and prevent unnecessary, wrong, and multiple drug use.

METHODS and MATERIALS

This study aims to evaluate the RDU knowledge and behaviors of students studying at Siirt University School of Health Nursing Department. The questionnaire form, which included questions about RDU and demographic information, was obtained from the Ministry of Health General Directorate of Pharmaceuticals and Pharmacy RDU Branch and was applied to the students of the Health School. This study was approved ethically by the decision of Siirt University Non-Interventional Clinical Research Ethics Committee dated 15. 03. 2019 and number E4818. This questionnaire contains a total of 34 questions that inquire about demographic information including age, gender, and educational status of the patients, as well as evaluating students' RUD-related behavior. It includes questions such as drug storage status, how to use medicines at home, their attitudes towards prescribing and obtaining medicines. These questions are determinative such as the availability of medicines at home and the points they pay attention to, how they obtain information about the medication and possible side effects, and to what extent they inform their doctors about their potentially important illnesses.

The study was carried out face to face with the participation of 568 students. The survey was carried out with the method of application under observation. The research population in which the questionnaire could be applied consisted of 980 students. Participation in the survey required volunteering. SPSS 22.0 statistical program for Windows was used for statistical analysis to evaluate the survey data. Descriptive statistics were applied to the data obtained from the students. A parametric test independent sample t-test was used for comparisons between gender groups. $p < 0.05$ was considered statistically significant.

RESULTS

89.3% of the students participating in the study are between the ages of 18-23. Of those who participated in the survey, 260 of them are 45.8% Female and 308 of them are 54.2% men. Their economic situation is 62.3% moderate. The highest participation in the survey was 33.1% in the first year, and the least participation was 14.6% among the 4th year students. For the question of the fate of the leftover drugs, the highest rate of 51.6% to be used when necessary, I throw it into the garbage at the rate of 28.2% and give it to the health institution in the third place, 6.3% was marked. When asked about the number of unused drugs available at home, 15.8% did not have any, the rest had 1 or more drugs in 84.2%. The number of pillboxes thrown away unopened due to the expiration date is between 1-3 and 41.7%. 58.3% of the cold chain drug is stored in the refrigerator door and 37.8% on the refrigerator shelf. The students stated the situations that they would pay attention to when using the medicines they kept at home as 71.1% suitability to the disease, 74.8% not having expired, 30.3%

not spoiling the packaging. When the students wanted to use the drugs they kept at home, 34.1% answered the question of who they got information from, and 25.3% answered that they did not get information from the doctor about the drug they used before. 7.6% of the students have a chronic disease. Possession of medication without a patient was found to be 23.3%, the most common medication in the order of analgesics, antibiotics, and cold medicines. When asked what do you think about your level of knowledge about drugs, 46.3% stated that their knowledge about the indications of drugs is at a moderate level. Their responses to the posology and method of administration, pharmacological properties, contraindications, side effects, drug interactions (drug/nutrient), warnings, precautions, special conditions (pregnancy, pediatrics, etc.), and bioequivalence knowledge are at moderate levels. What do you think about your level of knowledge about drugs? When the answers given by Female and men to the question, indications, posology, contraindications, side effects, and level of knowledge in special cases are compared, Female are more knowledgeable than men. The difference in knowledge level between Female and men is statistically significant at $p < 0.05$ level. To the question of whether you take the medication with the advice of your neighbors or relatives or would you like your doctor to prescribe it, 73.6% answered no. In case of illness, they only consult the doctor at the rate of 88%. Would you recommend medication to your acquaintances with similar complaints, 71.5% of the students answered no? 91.2% answered yes to the question, "Would you inform the doctor about your medication and chronic diseases?" When asked how they use the medicine prescribed by the doctor, 33.1% say they use the time recommended by the doctor or pharmacist, and the rate of those who say until their complaint was over 48%. Do you use antibiotics on your own without being examined for your complaints such as flu, cold, and cold? 62.6% of the students answered that they would not use it without examination. Do you use regular vitamin and mineral supplements? The rate of those who said no to use was 62.4%. The rate of those who said that they only use it when they feel bad was 17.8%. When asked if the method of administration of drugs is effective in the success of the treatment, the rate of those who said Yes, they would be better treated if it was injectable (needle) was 73.5%, and the rate of those who said they would prefer oral medications because they were afraid of needles was 19.3%. To the question of where to learn the information about the use of the drug and its possible side effects, the rate of those saying from the package insert of the drug was 58.5%, and the rate of those who said to consult a doctor was 19.2%. When asked about how to behave if you encounter side effects of the drug, 83.1% said I would consult a doctor. When asked whether you would use the products advertised in the press (television, radio, newspaper, etc.) for treatment purposes, 72.1% chose not to use it, and 20.9% would use it after consulting a doctor. The answer is given by the students to the question of how to get the medicine when you need painkillers was answered as 45% from the pharmacy with a prescription and 33.8% from the pharmacy without a prescription. If you have food or drug allergies, could you inform the doctor and the relevant healthcare personnel during the examination, 90.8% said yes. To the question of whether you are informed about the food and drinks that you should not consume with medicines, the answer is "not informed" with 53.2%. To the question of whether you can buy medicine from the pharmacy without medical examination, 76.2% answered that no, they do not take medicine without examination, serious discomfort can be missed. The rate of those who said yes when they do not want to pay examination fees was found to be 23.5. When taking prescription drugs, 69.4% answered yes to the question "Would you please check that the drug taken is the drug prescribed". When you go to the pharmacy, who will greet you, 56.7% of the students said other staff working at the pharmacy. The question of "Would you accept the equivalent drug (a drug with the same active ingredient of different companies suggested by the pharmacist was answered as "No" at a rate of 58.2%, unlike the one written on the prescription during the drug procurement. When asked if your pharmacist gives information about the use of the medicine you are taking and explains it until you are sure that it is understood correctly, 69.1% of the students answered yes. Table 1, table 2 and table 3 are examined about the data above.

Table 1. Students' rational drug use

Drug use status	Yes		No	
	Number	%	Number	%
Do you have a chronic illness?	43	7,6	520	92,4
Would you prescribe medication without getting sick, thinking it might be necessary? or do you buy it and keep it at home?	131	23,3	431	76,7
Do you take medication with the advice of your neighbors and / or relatives or would you like your doctor to prescribe the medication?	150	26,4	418	73,6
Would you recommend medication to your acquaintances with similar complaints?	162	28,5	406	71,5
Could you inform the doctor about the medications you have used before and the reports of chronic diseases, if any, when you go to the doctor?	518	91,2	50	8,8
Are you informed about foods and drinks that you should not consume with medicines?	265	46,7	302	53,2
Do you buy medicine from the pharmacy without a doctor's examination?	133	23,4	433	76,2
While taking prescription drugs, would you check that it is prescribed?	392	69,4	173	30,6
Who usually greets you when you go to the pharmacy?	244	43,3	319	56,7
Would you accept the equivalent drug (drug with the same active ingredient from different companies) suggested by the pharmacist, different from the one written on the prescription during the drug supply?	236	41,8	328	58,2
Does your pharmacist tell you how to use the medicine you are taking until you are sure that it is correctly understood?	389	69,1	174	30,9

Table 2. Showing the answers given by the participants to the questions about healthcare and drug use.

Knowledge and behaviour in drug use	Number	%
What would you do with the medication of your family members after the treatment?		
I save it for use when needed	286	51,6
I'll throw it in the trash	160	28,8
I give it to the health institution	36	6,4
I give it to the pharmacy	15	2,7
I throw in the toilet	8	1,4
Other	33	6
I give to acquaintances	16	2,9
How many unused or unfinished boxes of medicine do you have in your home?		
None at all	90	16
1-5	252	44
6-10	111	20
More than 10	112	20
Where do you store medicines for which there are no warnings about storage conditions?		
In a refrigerator	298	53,3
In the freezer / deep freezer	10	1,7
At room temperature in a cool and dry place	251	45

If the medicine you have at home is a cold chain medicine (if it needs to be stored in the refrigerator), in which part of the refrigerator do you store it?		
On the refrigerator door	327	58,3
On the refrigerator shelf	212	37,8
In the freezer / deep freezer	22	3,9
When you want to use medicines you have at home again who do you get information from?		
Doctor	159	34,1
I do not get any information from anyone because I have used it before.	118	25,3
Pharmacist	71	15,2
Nurse, paramedic	71	15,2
Acquaintance / Neighbor / Relative	47	10,2
What do you do in case of illness?		
I consult the doctor	422	88
I consult the pharmacist	5	1
I try to be treated with medicines available at home	7	1,5
I try herbal remedies	25	5,2
I consult with a nurse, health officer or healthcare professional	17	3,5
Other	4	0,8
How do you use the medications prescribed by the doctor?		
I use it for the period recommended by the doctor or pharmacist.	180	33,1
I use it until my complaint passes	261	48
I use it till the medicine runs out	97	17,9
Other	5	1
If you have food or drug allergies; Could you inform the doctor and relevant health personnel during the examination?		
Yes, I will	514	90,8
No, I do not inform	22	3,9
If he asks, I will inform	30	5,3
Without examination on your complaints such as flu, cold, common cold Do you use antibiotics on your own?		
No; I do not use without examination	353	62,6
Yes; i use	123	21,8
Yes; i start but stop using the drug when i feel well	88	15,6
Do you use regular vitamin and mineral supplements?		
No I don't use	354	62,4
Everyday	28	5
I only use it when I feel bad	101	17,8
3-4 times a month	40	7
2-3 times a week	44	7,8
Do you think the application method of the drugs is effective on the success of the treatment?		
Yes, I would be better treated if it is injectable (needle)	407	73,5
I'm afraid of needles, I prefer oral medications	107	19,3
I have difficulty swallowing the pill, I don't want to use it	40	7,2
Where can you find information about the use of the drug and its possible side effects?		
From the prospectus	260	58,5
Doctor	85	19,2
Pharmacist	51	11,5
Assistant health personnel (nurse, midwife, health officer, etc.)	19	4,3
Internet	29	6,5

How would you behave if you experience side effects from the drug?		
I apply to the doctor	472	87,4
I look for a solution	21	3,9
I do nothing	10	1,8
I apply to the pharmacist	19	3,5
I apply to assistant health personnel (nurse, midwife, health officer, etc.)	18	3,4
Products advertised in the press (television, radio, newspaper, etc.)		
Would you use it for treatment?		
I don't use	403	72,1
I use it in consultation with my doctor	117	20,9
I use it in consultation with the pharmacist	15	2,7
I ask my acquaintance, my neighbor who uses it and use it	24	4,3
How do you get medicine when you need pain relief?		
From the pharmacy by prescription	238	45
From the pharmacy without a prescription	179	33,8
Grocery store	55	10,4
From the neighbor, the acquaintance	57	10,8

Table 3. Independent T-test statistics of drug knowledge level between Female and male

Knowledge of Drugs Level	Gender	N	Mean	Std. Deviation	p-value
Indications	Female	260	3,14	0,990	0,02
	Male	308	2,94	1,040	
Posology	Female	260	3,38	0,992	0,03
	Male	308	3,18	1,115	
Pharmacological properties	Female	260	3,05	0,953	0,32
	Male	308	2,97	1,082	
Contraindications	Female	260	2,98	0,944	0,04
	Male	308	2,81	1,107	
Side effects	Female	260	3,26	0,954	0,02
	Male	308	3,06	1,087	
Interactions of drugs	Female	260	2,91	1,013	0,57
	Male	308	2,96	1,087	
Warnings	Female	260	3,36	0,990	0,22
	Male	308	3,25	1,101	
Special cases	Female	260	3,29	1,020	0,02
	Male	308	3,06	1,194	
Bioequivalence	Female	260	2,63	1,014	0,96
	Male	308	2,63	1,098	

DISCUSSION

In a study, 44.4 % (1565/3521) of the patients had 1 to 5 boxes of unused or unfinished medications at home, and 37.5 % (1321/3521) of the patients dumped 1 to 3 boxes of pharmaceuticals within a year despite the expiration date having passed [14]. When the students participating in our study were asked about the number of unused drugs available at home, 15.8% did not have any, and 84.2% of the rest had 1 or more drugs. Since the expiry date has passed, the number of discarded medicine boxes is between 1-3, 41.7%, without even opening the box. In another study, 51.0 % replied they preferred their doctors to prescribe medications they have previously taken. In addition, 55.9 % said their family suggested medications to them when they became unwell, and 37.1 % said they did the same for relatives. 70.5 % of those polled said they had stopped taking their prescriptions before the specified time frame. There were significant variations in sex, age, and educational level comparisons [6]. In our study, we found that there were significant statistical difference in knowledge of drugs

indications, posolog, pharmacological properties, side effects and special cases between female and male student, $p < 0,05$. Health School students only consult a doctor in case of illness was 88%. Would you recommend medication to acquaintances with similar complaints, 71.5% answered no. In another study, 79.8% of those thought that the use of drugs was adequately described. The pharmacy is the place where it is learned how to use the prescribed drugs with 77.6%. 70.5% of the drugs previously recommended by the doctor quit before the required time. The most common reason for this is the thought that 'the disease has ended' with 63.1%. The presence of drugs that are not used at home or stored for backup purposes is 85.5% [15]. When we ask how to use the medicine given by the doctor, 33.1% of those who say I will use it for the time recommended by the doctor or pharmacist, and the rate of those who say I will use it until my complaint is over is 48%. In another study conducted with health college students, 81.3% of these drugs were prescribed, 94.1% had information about the drugs they used, 67.1% obtained the information about the drug from the prospectus, 89.7% used the drugs with the doctor's recommendation. 57.0% stated that they used it as recommended by the doctor [11]. In a study conducted with the students of a Social Sciences Vocational School, 63.5% of the 790 students enrolled in the study received normal education and the rest received evening education. 61.6% of the students study in the first grade. 53.8% of the participants are Female. The average age of the students was 21.62 ± 3.98 (min: 18, max: 55). 10.1% of the participants use drugs continuously, and 48.9% of them buy and keep them at home without being sick, thinking that it may be necessary. 76.6% of them stated that they consult a doctor in case of illness. 48.5% of the students take the medicine given by the doctor until the complaint is passed [16]. In another study, it was found that 64.6% of the students had headache, common cold-flu among the reasons for using drugs, 83.6% read the prospectus before taking the medication, 47.9% stopped using the medication when their complaints ended, and It was determined that 23.2 of them used it without a prescription [17]. 7.6% of health school students had a chronic disease. Possession of medication without an illness was found to be 23.3%, and the most common drugs were analgesics, antibiotics, and cold medicines. In a different study, 8.9% ($n = 85$) of the students had chronic diseases. The most common chronic diseases included: chronic allergic diseases (asthma, sinusitis, rhinitis) 27.9% (24/85), migraine 10.5% (9/85), and ocular diseases (refractive errors, ocular hypertension) 9.4% (8/85). 68.4% of the group ($n = 396$) reported that they only used the medications given by the doctor, 62.9% ($n = 364$) used the medicines in the prescribed amount and 66.4% ($n = 385$) kept the medicines under appropriate conditions. 67.8% of the participants ($n = 393$) stated that they used the drug until the time recommended by the doctor [18]. Our students keep 58.3% of cold chain medication in the refrigerator door cap and 37.8% on the refrigerator shelf. The students stated that they would pay attention to what they should pay attention to when using the medicines they kept at home, 71.1% of them to be suitable for the disease, 74.8% do not have expired, 30.3% to be intact. In another study 635 (57.1%) have said that they use drugs without consulting a doctor; 14.9% have said that they advise drugs to their relatives, 7.9% have said that they use drugs upon the advice of their relatives.⁷ 67.9% of the individuals participating in the study keep their medicines to use when necessary, 72.6% of them have at least one box of medicine at home and 70% throw at least one box of medicine in a year. 51.1% of the individuals stated that they used an unfinished medicine at home again and 47.9% did not consult the healthcare personnel while using this medicine. 49.4% of the individuals participating in the study stated that they took medication without getting sick, 27.9% recommended the medicine that was good for them, and 40.5% used antibiotics by their own decision [19]. In this study, would you use antibiotics on your own without being examined on your complaints such as flu, cold and cold? 62.1% of the students answered that they would not use it without examination. In another study, when you go to the pharmacy, 66.3% of the participants (110 people) answered the question of who greets you, the other staff working at the pharmacy. 66.3% of the participants (110 people) answered yes to the question, "Would you check the medication prescribed while taking medication?". Unlike the prescription written during drug procurement, 71.1% of the participants (118 people) answered no to the question of would you accept the equivalent drug (a drug with the same active ingredient from different companies) suggested by the pharmacist. 72.3% of the participants (120 people) answered yes to the question of whether your pharmacist gives information

about how to use the medicine you take and tells it until you are sure that it is understood correctly. 56% of the participants answered yes to the question of whether you are informed about food and drinks that you should not consume with medicines [20]. In our study, 69.4% answered yes to the question “Would you check if it is the prescribed medication” while taking medication with prescription. Who usually greets you when you go to the pharmacy, 56.7% of the students answered the other staff working in the pharmacy. The question of “Would you accept the equivalent drug (the drug with the same active ingredient of different companies) suggested by the pharmacist was answered as “no” at the rate of 58.2%, unlike the one written on the prescription when procuring drugs. When asked if your pharmacist gave information about how to use the medicine you took and explained it until it was understood correctly, 69.1% of the students answered yes. In a different study conducted with students, the most common reason for using drugs 69% was pain, 93.7% read the package insert of the drug they used, 70.6% took the drugs on time, 78.5% did not change the drug dose themselves, 63% It was determined that they stopped using the drug when their symptoms were over, 62% did not always take the drugs with prescription, and 97.3% used painkillers the most without a prescription [21]. In a different study, 50.3 % read the drug prospectus; 64.1 % examined the expiration date of pharmaceuticals; 84 % obtained drugs solely from pharmacies; and % verified that the drug they received was the one prescribed. 27.2 % had knowledge on foods that should not be consumed with medications. When the sickness symptoms subsided, 46.8 % stopped taking their medicine [22]. It was determined that 15.9% of the patients participating in the study prescribed medication without being sick and they were most likely to prescribe painkillers 91.5%. 22.3% of the patients stated that they obtained medication without medical examination and 22% stated that they took medication with the recommendation of their neighbors or relatives. It was observed that 86.8% of the patients consulted the doctor when they got sick, 4.4% were treated with medicines at home, and 3.4% consulted the pharmacist. 52% of the patients stated that they did not use medication without examination for complaints such as flu, common cold, and cold, 65% of the patients stated that they did not use vitamins regularly [9]. In this study, it was asked if they use vitamin and mineral supplements regularly? The rate of those who say no to use was 62.4%. The rate of those who say I use it only when I feel bad was 17.8%. In a study conducted with nurses, 53% of the nurses stated that in case of illness, they quit the medicine given by the doctor when the symptom of the disease disappears. 98.8% of the nurses stated that they knew the effect of the drugs they used, and 99.1% knew the side effects. 76.3% of the nurses stated that they did not take the medication recommended by others in case of illness. 92.9% of the nurses stated that they checked the medicine prescribed while taking the medicines [23]. In terms of medicine usage patterns, 60.7 % said they kept leftover prescriptions at home to use later, 31.2 % said they had six or more packets at home, and 43.4 % said they could dispose of pills without even opening the container. Only half of the patients stored their medications at room temperature in a cold, dry area. On the other hand, 68.0 % of them used refrigerator door bins to keep medications that needed to be kept cold [24]. In another study, the participants stated that they had the most painkiller tablets (n =305, 76.33%) at home, these drugs were respectively followed by stomach medications (n =131, 32.75%), wound care medications (n = 114, 28%, 50), antipyretic syrups (n =102, 25.50%) and vitamin supplements (n =85, 21.25%) [25]. In another study, 43.8% of the patients stated that they had used medicines at their homes, 64.4% said that they had unfinished medicines at their homes, and 20.5% said that they had expired medicines at their homes. 82.9% of them stated that they controlled the expiration dates of the medicines they preserved. 37% of them can buy medicines from pharmacies for precautionary purposes without being sick, 61% take medicines for precautionary purposes while traveling or on holiday, 28.1% can use medication with the advice of friends and relatives, 48.6% of them take home medicines without going to the doctor. They stated that they could use it. 28.8% of them stated that they recommended drugs to their acquaintances and 80.8% of them would remind the doctor about the drug they were using while prescribing [26].

CONCLUSIONS

The level of knowledge of health college students is lower than nurses in RDU. However, when compared to university students and other groups, some levels of awareness and knowledge are higher. The reasons for all of these may be that they pay attention to the principles of rational drug administration in the right patient, the right drug, the right route of administration, the right dose, and the right time in all of the biochemistry, physiology, pharmacology and essentially health education and hospital practices. We suggest that the basic health lessons given should be supported with laboratory training and RDU lessons would be beneficial.

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