

Assessment of Knowledge and Behaviour of Pharmacy Services Students in Vocational School Of Health Services for Rational Drug Use

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ABSTRACT

Objective: To evaluate the knowledge and behaviour of the students about the rational drug use studying in the pharmacy services program in Vocational School of Health Services (VSHS). **Methods:** This cross-sectional study, conducted between 2017 October and 2018 March, was conducted on the first and second year students of a University VSHS Pharmacy Services Program. In this study, questionnaire was applied to 115 students to assess their knowledge and behaviour about the rational drug use. **Results:** The average age of the 115 students who participated in the study was 19.54 ± 1.79 years. Among the causes of drug use by the participants, influenza (64.6%) was in the first place. Participants were asked to propose medication competence and 30.7% of the participants stated that they suggested prescribed drugs. The prominence of commercial advertising was questioned and 58.8% of the participants said they did not use the advertised products. **Conclusion:** In our study, it was seen that pharmacy technicians studying in pharmacy services program did not have sufficient knowledge about rational drug use. The content of training programs should include more information on rational drug use.

Key words: Drugs, drug usage, pharmacy technician, rational drug use, students.

One of the most important problems in developing countries is the non-rational use of drugs. The most obvious problems with drug use are prescription of drugs over the need, drug misuse, and expensive drug use and antibiotics for unnecessary reasons [1]. According to the definition of the World Health Organization (WHO), a drug is defined as "a substance or product intended to be used to modify or examine physiological systems or pathological conditions for the benefit of the recipient" [2]. With respect to rational drug use (RDU), WHO first emphasized the importance of this issue in its 1985 meeting in Kenya-Nairobi and defined the concept of RDU [3, 4, 5]. At this meeting, RDU was defined as "using drugs appropriate to the clinical needs of the patients, at doses supplied their personal development, for a sufficient period of time, with themselves and at the lowest cost" [6]. In the basic principles of RDU; it is having major importance to make the correct diagnosis, determination of the progression of the disease, evaluation

of treatment options, correct prescription and follow-up if drug treatment is required [7, 8].

Problems related to RDU begin at the time of prescription by the physician. It has been observed that the prescribing physicians cannot provide the information to the patient on the use of medications, side effects, as they do not have enough time [9,10,11]. The main problems with RDU include self-medication without the physician's advice, the habit of using the drug with the advice of neighbors or relatives, unknown side effects of medicine, lack of information about the drug, shortening of drug usage durations [9]. The role of pharmacists, nurses and other health personal, especially the physicians are great in rational drug use [9-16]. The use of non-rational drugs may lead to mortality and morbidity in chronic patients and children due to inability to reach the drug or to use the appropriate dosage [14]. However, in European countries, 10-15% of health expenditures constitute drugs, while this

rate is around 40% in Turkey. This shows that non-rational drug use in Turkey can also increase the costs [17].

In our study, we aimed to measure the RDU knowledge of the individuals who are studying at the associate degree level in the VSHS pharmacy services program. After this study, within the scope of the Rational Action Plan of the Ministry of Health, basic awareness level will be established in auxiliary medical personnel and it will be possible to provide easier education.

MATERIALS & METHODS

This descriptive study was conducted between 2017 October and 2018 March on 1st and 2nd -grade students studying in VSHS pharmacy services program at a foundation university. In our study, the Ministry of Health's "Rational Drug Use Questionnaire" was used [18]. After taking approval from the ethical committee (number -B.08.6.YÖK.2.ÜS.0.05.0.06/2017/264), the students were informed by a consent form and those who agreed to participate in the study were included. The questionnaires were filled by students in the study. In the present study, sociodemographic features include age, gender, marital status, educational status, smoking and alcohol use, chronic illness, the presence of health personnel in first degree relatives, and living together with family were recorded.

The evaluation of students' attitudes towards RDU was done with the questionnaires that indicate the behaviors when they deal with the illness, the use of medication in the last one month, from whom they get information about the drug, management of adverse effects related to drug use, the source of information about side effects, status of use of drug in relatives/neighbors, drug use without doctor's advice, use of preventive medicines, supply of antibiotics without prescription, request for prescription of antibiotics from physician, use of medicinal products for commercialization and recommendation of the medication. The questionnaire, which assessed demographic characteristics and attitudes towards RDU, consisted of 29 questions.

The results were evaluated by SPSS 21.0 statistical software. The mean \pm standard deviation and frequency were used in the statistical evaluation of the data, and the chi-square test was used in the comparison between the groups. The results were accepted significantly at $p < 0.05$ and 95% confidence interval.

RESULTS

Total 115 students were included in the study with an average age of 19.54 \pm 1.79 years. Among 115 participants, 82.6% were female and 17.4% were male. Also, 1.7% of

the participants were married and 98.3% were single. 24.1% of the participants had health personnel in the first degree relatives and 75.9% did not have health personnel in first degree relatives. While 12.2% of the individuals were using drugs other than in chronic diseases (diabetes mellitus, venose disease, Rheumatoid Arthritis, Epilepsy etc.), 87.8% of them did not use drugs except for chronic diseases. The sociodemographic characteristics of the individuals participating in the study were shown in table 1.

Table-1. Distribution of individuals according to their sociodemographic characteristics

Properties	Figure (n)	Percent (%)
Gender		
Female	95	82.6%
Male	20	17.4%
Age groups		
<20	75	65.2%
20-25	36	31.3%
>25	4	3.5%
Marital Status		
Married	2	1.7%
Single	113	98.3%
Relative to Health Personnel		
Yes	27	24.1%
No	85	75.9%
Status of Smoking		
Yes	39	33.9%
No	76	66.1%
Use of Alcohol		
Yes	13	11.3%
No	102	88.7%
Use of Drug Other than Chronic Illness		
Yes	14	12.2%
No	101	87.8%
Life Conditions		
I live with my family	110	95.7%
I live alone	2	1.7%
Other	3	2.6%

Table 2 - Status of Drug Use of Individuals Participating in the Study

Drug use properties	Figure (n)	Percent (%)
Drug use in case of simple illnesses n=114 (1 missing data)		
With physician advice	45	39.2%
With pharmacist advice	14	12.2%
With nurse advice	2	1.7%
With friend/neighbor advice	4	3.5%
With herbal treatment	33	28.7%
With medicines at home	16	14%
Other	12	10.4%
Use of medicine in the last one month (n=115)		
Yes, I have used.	62	53.9%
No, I have not used.	53	46.1%
Reason for using medicine in the last one month (n=115)		
Analgesic	65	56.6%
Antibiotic	3	2.6%
Antidepressant	1	0.9%
Allergy	3	2.6%
Other	8	7%
Not used	40	34.7%
Source of information regarding the use of medicine (n=115)		
Physician	12	12.3%
Pharmacist	40	34.8%
Assistant Health Personnel	3	2.7%
Short Product Information of the Medicine	28	24.4%
User Manual	43	37.5%
Internet	12	10.6%
Other	2	1.7%
Source of Information Regarding Side Effects (n=115)		
Physician	14	12.3%
Pharmacist	40	34.8%
Assistant Health Personnel	3	2.7%
Short Product Information of the Medicine	28	24.4%
User Manual	43	37.5%
Internet	12	10.6%
Other	2	1.7%
Use of Medicine on Neighbor/Relative Advice (n=115)		
Yes	6	5.2%
No	109	94.8%
Use of Medicine without Physician Advice (n=115)		
Yes	37	32.2%
No	78	67.8%
Use of Medicine for Precaution (n=115)		
I don't take medicine	24	20.9%
Antibiotic	12	10.4%
Analgesic/Antipyretic	75	65.1%
Antigribal/cold	30	26%
Stomach medicine	14	12.2%
Other	6	5.2%
Antibiotic Supply without Prescription (n=115)		
Yes	12	10.4%
No	103	89.6%
Prescription Request from the Physician for Antibiotic (n=115)		

Yes	23	20%
No	92	80%
Use of Advertised Products for Treatment (n=114, 1 missing data)		
I take after consulting with the physician	29	25.4%
I take after consulting with the pharmacist	16	14%
I ask my friend that use	2	1.8%
I don't use	67	58.8%
Using Medicine without Consulting to Physician for Influenza n=114		
Yes, I do	36	31.6%
Yes, but I cut it when I feel good	29	25.5%
No, I don't use	50	43.9%
Advising Medicine for Similar illnesses (n=114)		
Yes	35	30.7%
No	79	69.3%
Source Referred for Reuse of Preventative Drugs (n=115)		
Physician	34	29.6%
Pharmacist	47	40.9%
Friend/Neighbor/Relative	2	1.7%
I don't ask information from anyone because I have already used	28	24.3%
Other	5	4.3%

DISCUSSION

The purpose of our study was to evaluate the habits of rational drug use of pre-undergraduate students and self-medication practices of Uskudar University VSHS Pharmacy Services Program. Many similar studies on rational medicine use have been carried out in our country and all over the World previously also. These studies were conducted in different research groups [1, 9-12,19, 20]. The reason for this is that the use of rational drugs is a problem that concerns the general public. In our study, the purpose of choosing the Pharmacy Services Program undergraduate students was that the pharmacists, who have a very important role in the RDU, serve with the pharmacy technician in the free pharmacy and these professionals also need to have sufficient knowledge and awareness about RDU.

In previous studies, the prevalence of self-medication use seems to differ between different populations. However, when we look at the studies focusing on university students; in the study, Karakurt and his colleagues found headache and flu-flu (64.6%) were the commonest reasons of drug use by the students. In a study conducted by Iptes and Khorsid, 45.5% of the students used medicine for a headache and 16.3% used medicine for influenza [19,20]. In our study, participants were asked about the purpose of use of medicine in the last one month and the most common drug used was pain medication (56.6%). According to this data, the results of our study are similar to the available literature.

In a study conducted by Yilmaz and his colleagues in 2014, RDU of individuals was evaluated and they found

that most commonly analgesics (52.8%), dermatological drugs (13.4%) and antihistaminics (9.2%) were consumed among the drugs available at home. In the same study, it was observed that in these individual's home; medicine boxes that were disposed or even not opened range about average 1-5 medicine chests (43%) and more than 6 medicine chests (32.4%) while 13 medicine chests (27.5%), a year are wasted without any use. In case that the drugs were to be used again at home, 42.9% of the individuals stated that they get advice from health professionals and 41.5% examined the short product information. In this study conducted by Yilmaz and his colleagues, the information about the usage of the drugs and the side effects of the drugs were assessed by obtaining the short product information of the drugs (66,2%). When the undesirable effect of the drug occurs, the majority (82.4%) apply to the doctor/pharmacist [21]. In our study, taking advice from physician with a range of 78.2% was in the first place and is in accordance to the study done by Yilmaz and his colleagues [21].

In a study conducted by Yapici and colleagues, 75.7% of the 300 people stated that their first choice was to go to a doctor when they were ill, while 15% said that they used the drugs available at home and 4.7% said they had done nothing. In this study, only 1.7% of the participants stated that they acted in line with the recommendation of the pharmacist. 26% of the participants in this study stated that they were using drugs without doctor's advice. 51.3% of the drug users who do not take recommendation from of the physician stated that they were using drugs based on their previous experience and 26.9% were using drugs with the recommendation of friends and 14.1% were using

drugs with the recommendation of family members and 7.7% were using drugs based on the recommendation of the pharmacist. 17% of the participants of the questionnaire stated that they were taking drugs with the recommendation of the family/friends/neighbors, and 25.3% of them suggest the drugs to their relatives when they feel healing effect from the medication.

In case of supply of medicine from the pharmacy, the ratio of those who obtain the information from the pharmacist regarding the use of the medicine was 76.7%. 79.3% of the respondents stated that they check the expiration dates of the drugs they were using and 73.3% said that they read the short product information of the drugs or have it read by others [22]. It is thought that the universe of our study has been composed of the students who study in the VSHS Pharmacy Services Program having a major influence on the rate of drug use on recommendation with a low rate of 5.2%. The positive effects of health-based education on RDU were observed in our study. In our study, the source of information about the use of medicines was the pharmacist with a maximum of 57.1%, and the results were similar to those of the constructor and his friends.

In a study conducted by Pirincci and his colleagues, RDU by nurses working in a university hospital was examined and 69.2% of the nurses responded that they took advice from the physician, 22% took medicines available at home, 8.8% stated that they would take drugs from the pharmacy without examination [23]. In our study, the participants expressed that they go to the physician first in case of simple illnesses.

In our study, students were questioned about drug recommendation competence of themselves and 30.7% of the participants stated that they recommend medication for those who have a similar illness like themselves. However, the fact that pharmacy technicians do not have the authority to recommend the medication and 30.7% of the students, recommend drugs which indicates that there is no awareness and there is lack of information on this issue. Consideration of this issue for the training should be given which would contribute to the development of rational drug use. It demonstrates the need for more intensive emphasis on duties and authorities in the pharmacy services education. Among our survey questions, the use of the products for treatment purposes that are advertised in the press was questioned and 58.8% of the respondents stated that they did not use them. The fact that most of the participants are not affected by advertising campaigns indicates that advertisement is not important for medicine.

Our study has few limitations as the results of the study were obtained by using questionnaires which were applied

to a limited number of students and the students answered the questionnaire by themselves.

CONCLUSION

In our study, it was seen that Pharmacy Technicians studying in Pharmacy Services program did not have sufficient knowledge about rational drug use. The content of training programs should include more information on Rational Drug Use and the authorities and responsibilities of pharmacy technicians should be emphasized more.

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