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Rational Drug Use by Patients Applying at Ear Nose Throat Polyclinic

Kulak Burun Boğaz Polikliniğine Başvuran Hastaların Akılcı İlaç Kullanımı

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RATIONAL DRUG USE BY PATIENTS APPLYING AT EAR NOSE THROAT POLYCLINIC

ABSTRACT:

Aim: This study was conducted to determine information, attitude, and behaviors of patients that apply at ear, nose, throat polyclinic regarding rational drug use.

Method: The study that was planned as a descriptive, cross-sectional study was conducted with 273 patients that applied at ear nose throat polyclinic of a university hospital. Data was collected using Patient Information Form and Rational Drug Use Information Form and descriptive statistics were used in the analysis.

Findings: Average age of patients were 40.71±15.21 year and 38.4% of the patients had higher education degree. It was found that 73.3% of the patients did not have knowledge about rational drug use, 59% received information about drugs they used from the doctor, 52.7% read the drug prospectus, 86.4% used the drugs prescribed by prescription, 75.8% used analgesics without consulting the doctor, 75.1% knew the storage conditions of drugs, 73.3% knew the purpose of use of drugs, and 82.4% knew the method of administration of the drug they used. Attitudes that were not in line with rational drug use were determined as taking nonprescription drug, increasing dosages used, abandoning drug when symptoms end, taking the same drug when symptoms repeat, seeking solutions by oneself in case of side effects, receiving and giving drug advices from relatives, and to acquaintances, and not investigating drug interactions.

Conclusion and Recommendations: It was observed that the patients did not receive information about rational drug use. The results of the research showed that the patients had positive as well as negative attitudes about drug use. In line with these results, it is recommended that patients be educated on rational drug use.

Keywords: *Rational Drug Use; Information; Attitude; Ear Nose Throat Polyclinic.*

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KULAK BURUN BOĞAZ POLİKLİNİĞİNE BAŞVURAN HASTALARIN AKILCI İLAÇ KULLANIMI

ÖZ:

Amaç: Bu çalışma kulak burun boğaz polikliniğine başvuran hastaların akılcı ilaç kullanımı konusundaki bilgi, tutum ve davranışlarını belirlemek amacıyla gerçekleştirildi.

Yöntem: Tanımlayıcı-kesitsel türde planlanan araştırma bir üniversite hastanesinin kulak burun boğaz polikliniğine başvuran 273 hasta ile gerçekleştirildi. Veriler, Hasta Bilgi Formu ve Akılcı İlaç Kullanma Bilgi Formu ile toplanıp, verilerin analizinde tanımlayıcı istatistikler kullanıldı.

Bulgular: Hastaların yaş ortalaması 40.71±15.21 yıl ve %38.4'ü yükseköğretim mezunuydu. Hastaların %73.3'ünün akılcı ilaç kullanımı konusunda bilgi sahibi olmadığı, %59'u kullandıkları ilaçlar ile ilgili bilgiyi hekimden aldığı, %52,7'sinin ilaç prospektüsü okuduğu, %86,4'ünün ilaçları reçeteli kullandığı, %75,8'nin hekime danışmadan analjezik aldığı, %75,1'inin ilaçların saklama koşullarını, %73,3'ü ilacın kullanım amacını ve %82,4'ü kullandıkları ilacın uygulama şeklini bildiği saptandı. Akılcı ilaç kullanımına uygun olmayan tutumlarının ise reçetesiz ilaç alma, doz arttırma, yakınmalar geçtiğinde ilacı sonlandırma, aynı hastalık da tekrar aynı ilacı alma, yan etki durumunda kendi kendine çözüm arama, yakınlarından ilaç tavsiyesi alma ve verme, ilaç etkileşimlerini araştırmama olduğu saptandı.

Sonuç ve Öneriler: Hastaların akılcı ilaç kullanımı konusunda bilgi almadıkları görüldü. Araştırma sonuçları, hastaların ilaç kullanımı konusunda olumlu tutumlarının olduğu kadar olumsuz tutumlarının da olduğunu gösterdi. Bu sonuçlar doğrultusunda, hastalara akılcı ilaç kullanımı konusunda eğitim verilmesi önerilir.

Anahtar Kelimeler: Akılcı İlaç Kullanımı; Bilgi; Tutum; Kulak Burun Boğaz Polikliniği.

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INTRODUCTION

Nowadays, one of the most important treatment methods in modern medicine applications is drug treatment (Aydın & Gelal, 2012; Saygılı et al., 2015). Drug is a chemical compound acquired from four main sources (animals, herbal, mineral, and synthetic) that causes change in body functions when taken by a living organism (Şahingöz & Balcı, 2013). Prominent tools in disseminating rational drug use are legal precautions, access to correct information, and education (Aydın & Gelal, 2012).

Rational drug use is described as "using drugs by patients suitable to clinical requirements, in doses that meet personal needs, for a sufficient time, with minimum cost to themselves and society" (Çiftçi & Aksoy, 2017). According to definition by the World Health Organization, rational drug use is a systematic approach covering correctly diagnosing patients, choosing reliable treatment method with proven effectiveness among different options, giving patients clear information and starting treatments (Cameron et al., 2011; WHO, 2011). Steps of rational drug use are correct diagnosis, determining prognosis, establishing objectives of tre-

atment, evaluating treatment options, choosing the suitable treatment, correctly prescribing drugs if necessary and follow up (Çiftçi & Aksoy, 2017; Maxwell, 2009). Irrational drug use is a major health problem at the present time. World Health Organization estimates that more than half of all drugs are improperly prescribed, distributed or sold (Aydın & Gelal , 2012; Çiftçi & Aksoy, 2017; Saygılı et al., 2015).

Irrational drug use leads to a decrease in patients' adherence to treatment, drug interactions, resistance to some drugs, recurrence or prolongation of diseases, increased incidence of adverse events, and increased treatment costs. For this reason, it is extremely important to raise awareness about rational drug use and increase public awareness (Köse et al., 2018; WHO, 2011). The first step of doctor, pharmacist, nurse, patient/patient's relative quadrangle in rational drug use is doctor. It is very important that doctor chooses safe drugs. Role of pharmacists at the second place in rational drug use becomes clearest at their response process to prescriptions. The most significant role of nurses on the third place is applying drugs according to 10 true principles. To provide rational drug use is one of the basic responsibilities of nurses (Aydın & Gelal, 2012; Saygılı et al., 2015; Ulupınar & Akıcı, 2015) Polyclinic services at healthcare institutions have a significant place in rational drug use. In addition, nurses have various roles and responsibilities in polyclinic services (Bolol et al., 2010). It is considered that information, attitude, and behaviors of individuals that need health care services would provide basic data in organization of individual training programs on rational drug use by nurses and preparation of policies regarding rational drug use which is an important multifactor process in polyclinic services. It is extremely important to determine the rational drug use behaviors in ear nose throat polyclinic, which is one of the first addresses of patients when they are sick due to the COVID-19 pandemic. Thus, this study was conducted to determine information, attitude, and behaviors on rational drug use of patients applying at ear nose throat polyclinic.

MATERIAL AND METHODS

Objective and Type of Study

This is a descriptive, cross-sectional study to determine information, attitudes, and behaviors of patients applying at ear nose throat polyclinic on rational drug use. Research questions are presented below:

- What are the characteristics of information patients have aboutrational drug use?
- What are the attitudes of patients regarding drug use?

Population and Sample of Study

Population of the study were patients applying at ear nose throat polyclinic of a university hospital; sample were 273 patients randomly chosen from this population between December 2018 – May 2019 who agreed to participate in the study. Selection criteria of sample were; (1) being 18 years old or older, (2) volunteering to participate in the study, and verbal problems obstructing communication.

Data Collection Tools

Data were collected using "Patient Information Form" and "Information Form on Rational Drug Use" prepared by researchers according to literature (Ekenler & Koçoğlu, 2016; Çiftçi & Aksoy; 2017; Kaya et al., 2015; Kurt et al., 2016; Kuş, 2016; Kuş & Durna, 2016; Ulupınar & Akıcı, 2015).

Patient Information Form: It composed of questions on age, gender, level of education, marital status, having children, place of residence, employment. The form also had questions on time of diagnosis, accompanying condition and information on illness.

Information Form on Rational Drug Use: This form had questions to determine level of information of patients on rational drug use, their resources on information about drugs, attitude in case of illness, randomly using drugs according to their types, timely taking drug behavior, taking prescription/nonprescription drugs and its reasons, attitude on taking drugs. Attitude on taking drugs was determined with 16 questions on five-point Likert-type scale with "Never (1), Seldom (2), Sometimes (3), Frequently (4), Always (5)" points. Items no 4, 6, 8, 10, 12, and 13 in this form were negatively scored and added to the total score. Accordingly, the highest score received on question form was 80 while the lowest was 16 (Demirci & Şimşek, 2012; Kuş, 2016). In the original study, the item-total score correlation coefficient of the Rational Drug Use Information Form was found to be between 0.279 and 0.490 for all items. Accordingly, the item with the highest item-total score correlation coefficient was "14. While using two different drugs, I look for drug interactions" (rs:0.490, p=0.000), while the item with the lowest item total score correlation coefficient is "12. Recommended by my relatives I use the drug" (rs:0.279, p=0.000). As a result of the reliability analysis for the questionnaire, the reliability coefficient was found to be 0.708. Accordingly, it was determined that the questionnaire had a sufficient level of statistical significance (Kuş, 2016). In this study, the reliability coefficient was determined as 0.760 according to the reliability analysis.

Study Design

Data of the study was obtained by researchers using face-to-face interview method. Filling out of the forms took around 15 minutes.

Ethical Dimension of the Study

Written and verbal permissions were received from patients volunteering to participate in the study. In order to conduct the study Medipol University Non-Interventional Clinical Research Ethics Committee permission (Date: 30.11.2018; Issue Number: 711) was received. Also permission was received from management of the institution.

Analysis and Assessment of Data

Data obtained were assessed using SPSS 16.0 (Statistical Package for Social Sciences 16.0 version) program. Data analysis involved use of descriptive statistics such as frequency, arithmetic average, standard deviation, and percentage.

FINDINGS

It was detected that average age of participants was 40.71 (15.21) year, 53.8% were women, 38.1% had higher education, 62.3% were married, 61.5% (n=168) had children, 86.8% lived with family, 54.9% were unemployed, 61.5% had sufficient income to cover expenses (Table 1).

Table 1. Demographic specifics of participants (N=273)

Demographic Specific	n	%
Age groups (Year)		
18-41	147	53.8
42-65	112	41.0
66 and older	14	5.2
Age Min.-Max. (Av.±SS)	18-82 (40.71±15.21)	
Gender		
Woman	147	53.8
Man	126	46.2
Level of education		
Not literate	12	4.4
Literate	9	3.3
Primary school	78	28.6
Middle school	70	25.6
High school	104	38.1
Marital status		
Married	170	62.3
Single/divorced/widow(er)	103	37.7
Having children		
Yes	168	61.5
No	105	38.5
Place of residence		
Alone	16	5.9
With family	237	86.8
Other	20	7.3
Employment		
Yes	123	45.1
No	150	54.9

It was determined that 99.3% of participants were newly diagnosed, 65.9% did not have any other illnesses and 55.7% were informed about illness (Table 2).

Table 2. Illness Characteristics of Participants (N=273)

Illness Characteristics	n	%
Time of diagnosis		
New diagnosis	271	99.3
Old diagnosis	2	0.7
Accompanying condition		
Yes	93	34.1
No	180	65.9
Information on Illness		
Yes	152	55.7
No	121	44.3

Frequency distributions and percentages of patients' being informed on rational drug use, source of information on drugs used, treatment behavior against illness, method used to take drug on time, reason for not taking drug on time, whether the last drug used were prescription or not, requesting prescription or adding drug to prescription from doctor, using drug without considering it necessary to apply at a medical doctor, and having information on drugs used variables were presented on Table 3.

Table 3. Information and Behaviors of Participants on Rational Drug Use (N=273)

Category	n	%
Information on Rational Drug Use		
Yes	73	26.7
No	200	73.3
Source of Information on Drugs Used *		
Medical doctor	161	59.0
Nurse	13	4.8
Source books on drug	15	5.5
Drug prospectus	144	52.7
Internet	97	35.5
Friend	13	4.8
Pharmacy	16	5.9
Treatment Behavior In Case of Illness*		
I do nothing for a while	74	27.1
I apply at doctor right away	135	49.5
I go to pharmacist	4	1.5
I try herbal treatment methods	107	39.2
I try treating myself using drugs at home	25	9.2
I get information from others that had the same illness	11	4.0
Method Applied to Take Drug Regularly, On Time		
I determine my daily hours, plan	173	63.4
I set the time, alarm clock	45	16.5
Times might lapse	24	8.8
I take when I remember to	19	7.0
I use special drug box	12	4.3
Reason to Not Take Drugs on Time *		
Forgetting	209	76.6
Dislike for using drugs	31	11.4
Taking when needed	27	9.9
Considering dose advised by doctor was insufficient	7	2.6
Not having sufficient drug	12	4.4
Work responsibilities /alcohol use /end of complaints /development of side effects /not waking up early	22	8.1
Drug Last Used		
Prescription	236	86.4
Nonprescription	37	13.6
Requesting Medical Doctor to Write Prescription or Add Drugs to Prescription		
Yes	104	38.1
No	169	61.9

Drugs Requested to Be Prescribed **		
Antibiotics	15	5.5
Analgesics (Painkiller)	74	26.4
Gastric drug	7	2.6
Asthma drug, steroids, vitamins, antipyretics, ear drops, goiter drug, cough syrup, nose spray	8	2.9
Drugs Used without Considering It Necessary to Consult a Medical Doctor *		
Analgesics	207	75.8
Antibiotics	38	13.9
Vitamins	94	34.4
Antihistamines	28	10.3
Antacids	25	9.2
Nose spray	87	31.9
Antipyretics	116	42.5
Antidepressants	16	5.9
Having Information on Drugs Used *		
Informed on purpose of use	200	73.3
Informed on method of application	225	82.4
Informed on duration of strength	94	34.4
Informed on side effects	119	43.6
Informed on contraindications	81	29.7
Informed on drug/food interactions	80	29.3
Informed on storage conditions	205	75.1
Informed on use in special conditions (pregnancy, etc.)	106	38.8

* More than one options are selected, percentage of lines are taken

** Patients who requested prescription of drugs and adding drugs into prescription answered this question

Attitudes of participants towards drug use were determined according to items on Table 4. According to this, it was noted that not using drugs advised by acquaintances, keeping drug in suggested conditions, and taking all drugs prescribed by doctor were more frequently seen (Table 4).

Table 4. Participant Attitudes Towards Drug Use (N=273)

ITEM	Minimum	Maximum	$\bar{x}$ ±SD
I read prospectus	1.00	5.00	4.00±1.28
I do not take nonprescription drug	1.00	5.00	2.46±1.52
I check expiration date of drug	1.00	5.00	4.25±1.32
If I think drug is ineffective I increase dose	1.00	5.00	4.58±0.98
I store drug under suggested conditions	1.00	5.00	4.51±1.03
I abandon using drug when complaints end	1.00	5.00	3.42±1.55
I use drug for duration advised by doctor	1.00	5.00	4.25±1.19
I take the same drug without prescription if I get ill again	1.00	5.00	4.18±1.26
I apply at doctor right away in case of side effects	1.00	5.00	4.20±1.27
I seek remedy by myself in case of side effects	1.00	5.00	4.32±1.07
I abandon using drug in case of side effects	1.00	5.00	3.79±1.57
I take drug advised by my acquaintances	1.00	5.00	4.63±0.82
I advise drugs to my acquaintances	1.00	5.00	4.53±0.87
I study drug interactions in case I use two different drugs	1.00	5.00	2.93±1.59
I take all drugs prescribed by doctor	1.00	5.00	4.49±1.08
I dispose of expired drugs under suitable conditions	1.00	5.00	4.36±1.23
TOTAL	16	80.00	64.90±8.47

DISCUSSION

Incorrect, unnecessary, ineffective, and over costly drug use across the World is presently a multidimensional and serious problem. One dimension of this problem is developing resistance to antibiotics based on unnecessary and incorrect drug use and high cost presenting a burden on social security institutions creating major problems with reimbursement. For this reason, it is important to disseminate rational drug use against problems such as not using drugs safely and effectively which became a global problem in developing countries as well as developed countries (Kuş & Durna, 2016). The World Health Organization, aims to make rational attitude embedded in health system to lower costs and prevent self-medication of individuals (WHO, 2011). Behaviors of health professionals assuming care of individuals that need health care that can be role model and contribute to effectiveness and quality of such efforts (Toro-Rubio et al., 2017). Medical doctors, pharmacists, nurses, and patients and their relatives have major responsibilities in order to ensure drug use process is sustained as it should (Köse et al., 2018). In this section, data on information, behaviors, and attitudes of patients applying at ear nose throat clinic of a university hospital were discussed according to research questions.

When information and behavior on rational drug use were assessed, it was seen that patients that applied at ENT clinic did not have sufficient information on rational drug use (73.3%), that they received information on drugs they used firstly from doctor and secondly from drug prospectus. When their treatment related behaviors upon getting ill was assessed, it was determined that they applied at doctors immediately or tried herbal methods. Studies demonstrated that the rates of applying at doctor upon getting ill and reading prospectus were very high (Barutçu et al., 2017; Macit et al., 2019). Thus, findings were in line with the literature and were suitable to rational drug use. While using herbal methods upon getting ill is a common traditional application, nowadays it is used when modern medicine remains insufficient or together with current treatments (Deniz, 2019; Macit et al., 2019). In this scope, it was considered that the high rate of applying herbal treatments was based on broad coverage of traditional and more recently herbal treatments on the media and its acceptance as going back to the nature.

Taking drugs regularly and on time ensures treatment is successful. Taking some drugs in certain time intervals increases their effectiveness. According to data of this study, it was seen that when participants were taking drugs they were planning to divide the drug to all day based on its dose and frequency. According to study conducted by Ekenler & Koçoğlu (2016), 15.6% of participants were not using their drugs on time as advised by doctor. According to study Kaya et al. (2015) conducted on university students, it was determined that 18.2% of participants were not using their drugs on time while according to study by Yılmaz et al. (2011) 12.5% of individuals were not using their drugs on time; the reason for not

using on time being forgetting. Reason for not taking drug on time was forgetting in this study which was a finding in line with the literature and suggested inexistence of a method of reminding.

One of the basic principles of rational drug use was using prescribed drugs advised by doctor. It was noted that patients used prescription drugs, did not request doctor to add drugs to prescription, and those that requested doctor to add drugs requested painkillers first followed by antibiotics. In their study where they assessed drug use habits of students at faculty of medicine, Johny, Torgal, & Mathew (2017) found that 91.3% of students self-medicated (Johny et al., 2017). In another study, the rate of those that said they would not use drugs without consulting doctor or pharmacist was quite high (83.8%) (Barutçu et al., 2017). According to study by Baybek et al. (2005) 92.4% of participants used painkillers while 16.3% used antibiotics without consulting doctor and according to study of Hatipoğlu & Özyurt (2016) 71.3% of participants used painkillers and 29.6% of participants used antibiotics without consulting doctor. This finding demonstrated that patients most commonly used analgesics without considering it necessary to consult doctor and buying such drugs in the scope of health insurance was effective in this fact.

Having information on drug that is used was one of the other basic principles of rational drug use. It was expected that patients are informed on the reason why they use drugs, how they would use them, their durations of strength, their side effects, interaction with drugs or food, storage conditions, and use in special circumstances within doctor's knowledge (Kaya et al., 2015). According to Ekenler and Koçoğlu (2016), 76.6% of participants declared that they were informed on side effects of drugs. It was understood that patients were not informed on use of drugs in special circumstances, the rate of using drugs without doctor's advice was quite high (Hatipoğlu & Özyurt, 2016; İlhan et al., 2014). According to results of study, patients could know how to use drugs, objective of use and storage conditions if health care team explained to patients why drug was given and how they would take it. Similarly, pharmacist's writing of method of use of prescribed drug as requested by doctor and verbally repeating was effective in increasing information of patients. Also, delivering drugs to patients from pharmacy with information on storage conditions and the required equipment to protect them until arriving at home could raise their awareness on this subject.

Healthy and ill individuals might have different attitudes towards drug use. As a result of this study, it was established that while participants generally had positive attitudes, they also displayed improper attitudes and behaviors. They received quite high scores on items such as reading prospectus, checking expiration dates, storing drugs in prescribed conditions, using according to time foreseen by doctor, applying at doctor or abandoning use in case of side effects, taking all drugs advised by doctor, and disposing of expired drugs. According to these items, it could

be argued that individuals had positive attitudes and behavior regarding this issue. Some studies in the literature mentions patients had positive behavior concerning reading drug prospectus, taking note of expiration date, storage, disposing of expired drugs, etc. (Erkoç & Güner, 2021; Hatipoğlu & Özyurt; 2016; Kaya et al., 2015; Köse et al., 2018; Macit et al., 2019; Toro-Rubio et al., 2017; Yapıcı et al., 2011). Demonstrating positive attitudes such as consulting doctor in case of side effects and taking all drugs advised by doctor were expected/desired conditions and this study demonstrated differences among patients in this regard. However, it was established that patients displayed behaviors that deviated from rational drug use such as increasing dose by oneself, abandoning treatment, taking nonprescription drugs, seeking solutions by oneself in case of side effects, taking drugs suggested by acquaintances and giving others drug suggestions and they received high scores on these items. Especially abandoning treatment due to lack of continuing symptoms could result in individuals applying at the same health care facility with the same condition. In study by Kaya et al. (2015) it was stated that 62.2% of participants abandoned taking drugs as soon as their complaints ended. One of the expressions that reflect attitude that is not in line with rational drug use was "I use drugs suggested by my acquaintances". Participants received high scores (4.63±0.82) on this expression. Nonprescription drug use is quite common in our country (Deniz, 2019). Considering using drugs suggested by acquaintances and suggesting oneself are closely linked with I take the same drug when I get ill again item, low score on "I do not take nonprescription drug" item demonstrated that participants took drugs without doctor's advice. This behavior is similar to study findings declaring I would take drugs without doctor's advice (Ekenler & Koçoğlu, 2016; Erkoç & Güner, 2021; Hatipoğlu & Özyurt, 2016; İlhan et al., 2014). Painkillers etc. drugs that are deemed simple in daily life might interact with many drugs or food (Macit et al., 2019). In this study it was found that participants had low scores (2.93±1.59) on I study drug interactions while using two different drugs expression. According to literature patients frequently receive information from health professionals on interaction with drug or food (Macit et al., 2019).

CONCLUSION AND RECOMMENDATIONS

Recent dissemination of rational drug use is important to eradicate problems such as unsafe and ineffective use drugs. Data of this study revealed that patients applying at ear nose throat clinic of a university hospital had sufficient information on rational drug use and positive as well as negative attitudes towards rational drug use. In this context, nurses that are the most important members of protective and therapeutic health care system have important responsibilities towards informing patients on this subject. Periodic in-service trainings must be organized to keep health professional's level of awareness high and to reflect this on patient care. Increasing individuals' information on drug management would result in their development of positive attitudes towards rational drug use.

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Conflict of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Author Contribution Rates

Çalışmanın Tasarlanması (Design of Study): GÖA (%60), NK(%40)

Veri Toplanması (Data Acquisition): Çİ (%70), BT (%30)

Veri Analizi (Data Analysis): NK (% 70), GÖA (% 30)

Makalenin Yazımı (Writing Up): GÖA (%70), NT (% 30)

Makale Gönderimi ve Revizyonu (Submission and Revision): GÖA (%50), NT (% 50)

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