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The practice of self-medication in an urban population.

Serdar Oztora*, Gulnar Nepesova, Ayse Caylan, Hamdi Nezih Dagdeviren

Department of Family Medicine, School of Medicine, Trakya University, Edirne, Turkey

Abstract

Aim: The aim of this study was to determine the drug utilization of patients without consulting a doctor in Edirne.

Methods: Out of 6133 patients over 18 y of age admitted to 19 Family Health Centers located in the city center, 36.8% (n=1781) agreed to participate. Patients with communication problems were excluded. A questionnaire prepared by the researchers was filled out face-to-face.

Results: According to patient's responses, 62.5% (n=1113) of patients did not use any drugs without consulting a doctor, while 37.5% of them did (n=668). There was no significant difference between genders. Students, high-income group and postgraduates had the highest proportion of self-medication. For the reason of using drugs without consulting (n=668), 53.3% (n=356) said "I used a previously successful drug", 25.6% (n=171) said "it was an emergency" and 10.8% (n=72) said "drug is cheaper than consultation". Of these drugs, 88.5% (n=591) were pain killers, 51.5% (n=344) were cold medicines and 12.7% (n=85) were vitamins.

Conclusion: Self-medication and over-the-counter drugs are significant problems resulting in irrational drug use. People with higher education and economic level seem to have a tendency in self-medication and irrational drug use, thus health education and health literacy should be emphasized and included in the curriculum in every education level, apart from formal education. While doctors play a key role in rational drug use, other health professionals like pharmacists should also be involved.

Keywords: Self-medication, Prescription, OTC drugs, Drug utilization, Turkey.

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Introduction

Supplying drugs to patients for their medical needs and ensuring rational drug use are among basic human rights. World Health Organization (WHO) emphasizes the accessibility of this right and the necessity of advocating it at every opportunity. However, it is known that throughout the world more than half of the drugs used for medical purposes are consumed irrationally. These findings reveal the significance of acting meticulously as necessary with respect to drug utilization, which is one of the most important components of health service [1].

Another important topic is the self-medication of individuals without consulting a doctor. The use of medications without prior medical consultation regarding indication, dosage, and duration of treatment is referred to as self-medication [2]. In many countries, it is easy to procure drugs that require medical supervision and prescription from pharmacies without any prescriptions. In our country, although the number of drugs that are permitted to be sold without prescription is quite few, it is possible to buy all drugs from pharmacies except for some drugs such as narcotics like morphine and psychotropic. This leads to improper use, delay in accurate diagnosis and treatment, drug resistance, drug interactions, side effects and the uneconomic use of individuals' limited income [3].

The aim of this study was to investigate the practice of self-medication among patients in Edirne.

Materials and Methods

Our study was conducted after getting the approval of the Ethics Council in the Family Medicine Department of the Medical Faculty of Trakya University. It was implemented in 19 Family Health Centers located in Edirne city center. A permit was received from the Edirne Provincial Health Directorate, to which they are affiliated before beginning the study.

The study included patients over 18 y of age that consented to participate by filling a questionnaire. Out of the 6133 patients that applied to 19 Family Health Centers in Edirne City Center between the dates of 06.04.2015-13.04.2015 (one week), 78.8% (n=4834) met the study conditions and 36.8% (n=1781) of those patients agreed to participate in the study by filling a questionnaire.

Participants filled a questionnaire including 38 questions prepared by the researchers to determine their drug use behaviour. Those with communication problems and those who refused to participate were excluded. Questionnaires were filled through face-to-face interviews with patients.

SPSS 19 statistics program was used to evaluate study data. Statistical significance level was considered to be 0.05. Percentage and chi-square test were used for the statistical analysis of data.

Results

Among 1781 participants, 58.3% (n=1038) were female and 41.7% (n=743) male. Of them, 39.1% (n=697) had no personal income, whereas 60.9% (n=1084) had personal income, of which 4.6% (n=50) did not want to state its level. The average income was 1645.50 ± 959.10 TL (min=200 TL, max=10000 TL). Table 1 summarizes the socio-demographics of the participants.

When the participants were asked whether they used drugs without consulting a doctor, 52.5% (n=1113) stated they did not used drugs without a doctor's consultation and 37.5% (n=668) said they did. There was no significant difference between genders in terms of drug use, while there was significant difference between work, income and educational statuses.

The frequency was the highest in students (50.7%) and the lowest in retired (22.9%); significantly higher in the high-income group than the low-income group; and the highest among the postgraduate degree (60.3%) and the lowest among primary school graduates (29.9%) (Table 2).

Among 668 patients who used drugs without consulting a doctor, the most frequent reason was "I used it before and it was successful" with a percentage of 53.3 (Table 3).

The reasons for self-medication according to the sociodemographic features of the participants are shown in Table 4. According to participant's gender, "I used it before and it was successful" was significantly higher in women (51.3%) compared to men (41.4%) (Pearson χ^2=10.756; p=0.001). According to participant's work status, there was a statistically significant relation between work status and the responses of "Drug is cheaper than consultation" (Pearson χ^2=17.054; p=0.017), "Getting prescription is difficult" (Pearson χ^2=19.820; p=0.006), "I used it before and it was successful" (Pearson χ^2=44.289; p<0.001) and "It was an emergency" (Pearson χ^2=16.954; p=0.018). "Drug is cheaper than consultation" had the highest rate in unemployed (18.9%) and farmers (17.9%) and the lowest in retired people (7.2%); "Getting prescription is difficult" had the highest rate in farmers (21.4%) and the lowest in retired (4.8%); "I used it before and it was successful" had the highest rate in students (51.5%), and the lowest in retired people (41.0%); and the response "It was an emergency" had the highest rate in officers (27.3%) and the lowest in farmers (3.6%). According to participant's income status, only "Drug isn't paid by insurance" was significantly higher in the high-income group (Pearson χ^2=9.066; p=0.003). According to participant's education status, there was a statistically significant difference among groups in terms of "Drug is cheaper than consultation" (Pearson χ^2=10.360; p=0.035), "Getting prescription is difficult" (Pearson χ^2=11.442; p=0.022) and "I used it before and it was successful" (Pearson χ^2=41.382; p<0.001). "Drug is cheaper than consultation" had the highest rate in postgraduates, and the lowest in primary school graduates; "Getting prescription is difficult" had the highest rate in illiterates (20.0%), and the lowest in postgraduates (7.2%); "I used it before and it was successful" had the highest rate in postgraduates (52.5%) and the lowest in illiterates (43.3%) and primary school graduates (43.3%) (Table 4).

Among 668 participants using drugs without consulting a doctor, painkillers were the most frequent drugs with 88.5% (n=591) (Table 5).

Table 1. *Sociodemographic features of participants.*

		n	%
Work status	Housewife	487	27.3
	Retired	345	19.4
	Worker	235	13.2
	Student	219	12.3
	Officer	170	9.5
	Self-employed	169	9.5
	Unemployed	99	5.6
	Farmer	57	3.2
Education status	Primary school	656	36.8
	High school	542	30.4
	University	327	18.4
	Postgraduate	194	10.9
	Illiterate	62	3.5
Social security	Social Security	1547	86.9
	None	187	10.5
	Private Insurance	47	2.6
Chronic disease	No	873	49
	Yes	908	51

Table 2. *Distribution of participants in terms of self-medication.*

		No		Yes		Total		Pearson χ^2	p
		n	%	n	%	n	%		
Gender	Male	479	64.5	264	35.5	743	100	2.122	0.145

(n=1781)	Female	634	61.1	404	38.9	1038	100		
Work status (n=1781)	Student	108	49, 3	111	50, 7	219	100	58.514	<0.001
	Self-employed	91	53, 8	78	46, 2	169	100		
	Worker	131	55, 7	104	44, 3	235	100		
	Farmer	34	59, 6	23	40, 4	57	100		
	Officer	107	62, 9	63	37, 1	170	100		
	Housewife	312	64, 1	175	35, 9	487	100		
	Unemployed	64	64, 6	35	35, 4	99	100		
	Retired	266	77, 1	79	22, 9	345	100		
Income level (n=1034)	Low income	451	68.6	206	31.4	657	100	8.018	0.005
	High income	226	59.9	151	40.1	377	100		
Education status (n=1781)	Illiterate	36	58.1	26	41.9	62	100	59.956	<0.001
	Primary school	460	70.1	196	29.9	656	100		
	High school	335	61.8	207	38.2	542	100		
	University	205	62.7	122	37.3	327	100		
	Postgraduate	77	39.7	117	60.3	194	100		

Table 3. *Distribution of reasons for self-medication.*

	n	%
I used it before and it was successful	356	53.3
It was an emergency	171	25.6
Drug is cheaper than consultation	72	10.8
Getting prescription is difficult	62	9.3
A relative has recommended	57	8.5
Drug isn't paid by insurance	18	2.7
Other	8	1.2

Table 4. *The reasons for self-medication according to the sociodemographic features.*

		Drug is cheaper than consultation		Getting prescription is difficult		Drug isn't paid by insurance		I used it before and it was successful		A relative has recommended		It was an emergency		Other	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%
Gender	Male	36	12.2	32	10.8	10	3.4	122	41.4	22	7.5	67	22.7	6	2
	Female	39	8.5	31	6.7	9	2	236	51.3	35	7.6	106	23	4	0.9
Work status	Unemployed	7	18.9	6	16.2	1	2.7	17	45.9	3	8.1	3	8.1	0	0
	Housewife	13	6.8	12	6.3	2	1	101	52.9	13	6.8	47	24.6	3	1.6
	Retired	6	7.2	4	4.8	1	1.2	34	41	10	12	26	31.3	2	2.4
	Farmer	5	17.9	6	21.4	0	0	14	50	2	7.1	1	3.6	0	0
	Worker	12	10.2	10	8.5	6	5.1	55	46.6	6	5.1	26	22	3	2.5
	Officer	11	14.3	8	10.4	3	3.9	28	36.4	4	5.2	21	27.3	2	2.6
	Student	12	9.2	11	8.5	3	2.3	67	51.5	11	8.5	26	20	0	0
	Self-employed	9	9.9	6	6.6	3	3.3	42	46.2	8	8.8	23	25.3	0	0
Income level	Low-income	22	9.3	22	9.3	1	0.4	108	45.8	14	5.9	66	28	3	1.3
	High-income	17	9.7	17	9.7	7	4	71	40.3	15	8.5	46	26.1	3	1.7

Education status	Illiterate	3	10	6	20	2	6.7	13	43.3	1	3.3	5	16.7	0	0
	Primary school	20	9.2	16	7.4	5	2.3	94	43.3	23	10.6	55	25.3	4	1.8
	High school	21	9.4	17	7.6	4	1.8	117	52.5	10	4.5	51	22.9	3	1.3
	University	15	10.3	14	9.6	4	2.7	66	45.2	13	8.9	32	21.9	2	1.4
	Postgraduate	16	11.5	10	7.2	4	2.9	68	48.9	10	7.2	30	21.6	1	0.7

Table 5. *Distribution of drugs used most by participants without consulting a doctor (n=668).*

Drugs	n	%
Painkillers	591	88.5
Cold medicine	344	51.5
Vitamins	85	12.7
Antibiotics	66	9.9
Anti-acids	63	9.4
Hypertension drugs	31	4.6
Antihistamines	29	4.3
Diabetes	14	2.1
Others	8	1.2

Discussion

In our study among 1781 participants, 47.8% (n=668) used drugs without consulting a doctor. In several local studies, drug use without consulting a doctor was 31.9% in Ankara, 57.2% in Adana, 42.9% in Isparta and 44.2% in Izmir [4-7]. A study made in Mugla found that the rate of using drugs with a pharmacist's recommendation was 28.8% and the rate of self-medication was 61.6% [8]. It is a high percentage that cannot be ignored by the health professionals, as well as the health authorities.

Our study revealed that the self-medication frequency is higher among students, in high-income group and in postgraduate degrees. This emphasizes an important issue we are facing with. It shows that higher education does not prevent people from harmful behaviour to their health. Apart from formal education, health education must be included in the curriculum in every education level. Thus, health education and health literacy should be emphasized and other health professionals like pharmacists should also be involved in rational drug use [9-11].

The determinants of drug procurement tendency were shown as friends, relatives, pharmacists/assistant or personal experience [4]. When the reasons of self-medication expressed by the participants were investigated in our study, the most frequent reason of self-medication was "I used it before and it was successful". Similar to our results, studies reveal that a high number of patients rely on the previously prescribed drugs [12]. As previous experiences affect the use of drugs significantly, the doctor should inform the patient on the medication being for that instant only.

Even if the social security on health services covers all the population in Turkey, the contribution fee of insured differs in primary, secondary and tertiary care. Sometimes buying a drug only becomes cheaper than consultation and prescription costs. The higher rate of "drug is cheaper than consultation" in unemployed and farmers confirms this fact in our study. Also education status was an affecting factor on this reason. With the higher education levels, it increases. The reasoning behind that might be the irrational self-esteem on their knowledge on health that avoids them to consult a doctor.

The lack of the gatekeeping role of the family medicine in Turkey causes uncertainty in choosing the right medical service and doctor. Also the high daily admittance of patients to the health care facilities causes reluctance in many patients. So getting a prescription after a doctor visit might seem difficult to some. As the retired people have more time to consume, this was not perceived as a problem by them, whereas the farmers were the most frequent group complaining about the difficulty on getting a prescription. It was the highest among illiterates and the lowest in postgraduate degrees. The education seems to have a positive effect on access to health care.

In our study, pain killers, common cold medications and vitamins were the most frequently used drugs. The most commonly used drugs in Turkey were antibiotics, painkillers, anti-rheumatic drugs and common cold medications [5]. Our study found that the rate of painkillers and anti-flu drugs was more than the rate of antibiotics. The most frequent drugs used without consulting a doctor were painkillers with 92.4% and antibiotics with 16.3% in Mugla; analgesic drugs 83.1% and antibiotics 40.3% in Ankara [8,13]. Analgesic drugs are among the most frequently used drugs in the world. Our study found that, after analgesics, the most frequently and irrationally used drugs were anti-flu drugs and antibiotics.

The health care financing in Turkey has been recently updated. Before this reform, social security coverage varied between different social security services for different sectors and segments of the population. Health behaviour of people was based on those circumstances. There might be some results of this study that may look like paradoxes. After this reform where every citizen is covered by social security, this is yet an early stage to adopt this new founded standardization by everyone at the same pace. This is one of the few papers focusing on the effect of this phase. Thus, by showing the early

effects of this reform, this paper will provide an important source in the future.

In conclusion, the use of drugs without consulting a doctor and over-the-counter drugs are significant problems resulting in irrational drug use. People with higher education and economic level seem to have a tendency in self-medication and irrational drug use, thus health education and health literacy should be emphasized and included in the curriculum in every education level, apart from formal education. While doctors should play a key role in rational drug use, other health professionals like pharmacists should also be involved.

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*Correspondence to

Serdar Oztora

Trakya University School of Medicine

Department of Family Medicine

Edirne

Turkey