

Evaluation of health literacy and drug use attitudes and behaviors of patients admitting to dermatology clinic

Dermatoloji polikliniğine başvuran hastaların sağlık okur-yazarlığı ile ilaç kullanım tutum ve davranışlarının değerlendirilmesi

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SUMMARY


Objective: In the present study, the purpose was to investigate the relationship between health literacy levels and drug use attitudes and behaviors of patients admitting to dermatology outpatient clinics.

Method: A total of 295 volunteers admitting to Sivas Cumhuriyet University Dermatology Clinic between 1/03/2020 and 31/12/2020 were included in the study. Two forms were used to collect the data in the study. These were the Data Collection Form and the Health Literacy Scale.

Results: The mean age of the participants was 33.0 ±16.36; and 62.0% of them were women. The mean score of the participants in Health Literacy Scale was 4.60±0.2; and it can be argued that the health literacy levels of the participants were high. The relations between health literacy and dermatological drug use attitudes and behaviors were evaluated with the Correlation Analysis; and a significant relation was detected between the two variables (p<0.05).

Conclusions: Dermatology patients have high health literacy and their dermatological drug use attitudes and behaviors are at adequate levels.

Keywords: Health literacy, rational drug use, dermatology

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ÖZET

Amaç: Bu çalışmada dermatoloji polikliniğine başvuran hastaların sağlık okuryazarlığı düzeyleri ile ilaç kullanım tutum ve davranışları arasındaki ilişkinin araştırılması amaçlanmıştır.

Yöntem: Çalışmaya toplam 295 gönüllü dahil edildi. Araştırmada verilerin toplanmasında Veri Toplama Formu ve Sağlık Okuryazarlığı Ölçeği kullanılmıştır. Verilerin değerlendirilmesinde yapılan normallik testine göre veriler normal dağılıma uymadığından farklı testler için Mann Whitney U-Testi ve Kruskal Wallis Testi kullanılmış; değişkenler arasındaki ilişkileri değerlendirmek için Spearman Korelasyon Analizi kullanılmıştır.

Bulgular: Katılımcıların Sağlık Okuryazarlığı Ölçeği puan ortalaması 4.60±0.2; ve katılımcıların sağlık okuryazarlık düzeylerinin yüksek olduğu söylenebilir. Sağlık okuryazarlığı ile dermatolojik ilaç kullanım tutum ve davranışları arasındaki ilişkiler Korelasyon Analizi ile değerlendirilmiş; ve iki değişken arasında anlamlı bir ilişki saptandı (p<0.05).

Sonuç: Dermatoloji hastalarının sağlık okuryazarlığı yüksektir ve dermatolojik ilaç kullanım tutum ve davranışları yeterli düzeydedir.

Anahtar sözcükler: Sağlık okuryazarlığı, ilaç kullanımı, dermatoloji

INTRODUCTION

World Health Organization defines health literacy as “the ability of individuals to access, understand and use their health knowledge for the protection and maintenance of health”. Low health literacy levels cause difficulties in understanding health-related information and messages, high level of illness in individuals, less use of preventive healthcare services, problems in accessing healthcare services, greater use of emergency services, increased incidence in chronic diseases and hospitalizations ¹.

Every member of society should have adequate healthcare knowledge to make decisions about health, not only the ability to read and understand. Health literacy, beyond reading-writing skills, covers healthy behaviors, the ability to understand and evaluate healthcare information such as correct use of medications, knowing how to benefit from healthcare services, understanding and signing informed consent forms, making decisions on self-care and disease management, and using medical devices at home correctly ².

Inadequate health literacy can cause unhealthy life, lack of knowledge on chronic diseases, difficulty in understanding the education provided, lack of knowledge on health and preventive healthcare services (e.g. screening, vaccines, exercise) and problems in using these services, difficulty in complying with the treatment provided (i.e. medication, control, etc.), increase in the rate of hospitalization and increase in healthcare expenses ³.

Rational Drug Use (RDU) is defined as being able to provide the appropriate drug at the lowest price and easily, at the appropriate time and dose according to the clinical findings and individual characteristics ⁴.

Non-rational drug use continues to pose a serious problem that affects public healthcare. Because of non-rational drug use, there may be increases in diseases and mortality rates, in the risk of side effects of drugs, and decreases in accessibility to even basic medicines because of improper consumption of the country’s resources, resistance develop to drugs, and the need for new treatment options appears ⁵.

Non-realistic drug use behaviors include improper drug use, multiple drug use, unnecessary use of expensive drugs, over-prescription of medications, or using antibiotics unnecessarily ⁶. Rational drug use is a process starting with rational selection of drugs, and responsible stakeholders of the process

include doctors who prescribe drugs, pharmacists providing drug logistics, healthcare employees who administer the drug, and patients using the drug. Right at this point, it is considered that it is important to measure the knowledge and behavior levels of the stakeholders to achieve rational drug use policies at desired levels in healthcare systems ^{7,8}.

The purpose of the present study was to investigate the relations between health literacy levels and drug use attitudes and behaviors of patients admitting to the dermatology clinic.

MATERIAL AND METHODS

The purpose of the study, which was designed in a cross-sectional fashion, was to determine the relations between health literacy and rational drug use in the sampling of dermatology patients.

Throughout the study, all the individuals admitting to the dermatology clinic, who were over the age of 18, and who agreed to participate in the study, were included in the study. The study data were collected between 1/03/2020 and 31/12/2020. Being volunteers was essential in the study, the patient had the right to terminate the study at any time s/he wished. Two forms were used to collect the data in the present study. These were the data Collection Form and the Health Literacy Scale.

Data Collection Form: The Data Collection Form consisted of two parts. In the first part, sociodemographic characteristics, such as age, gender, education and income levels were questioned. The health-disease status of individuals, drug use characteristics, information status regarding drug use, and dermatological drug use attitudes and behaviors were questioned in the second part. The score of “2” was given to each correct behavior, “1” to those who responded as “sometimes”, and “0” to each incorrect behavior, and the total score was obtained in this way to obtain the drug use attitude and behavior score.

Health Literacy Scale (TR): The 47-item HLS-E.U (Health Literacy Survey in Europe), which was developed by Sorensen, was used in this study. The form was then simplified by Tochi, Bruzari and Sorenson working together, and its Turkish validity and reliability study was conducted by Aras and Bayık. The scale consisted of 25 items and four sub-dimensions. It was found that the health literacy scale had a high level Cronbach’s Alpha internal reliability coefficient ^{9,10}.

Statistical Analysis: According to the normality test done in the evaluation of the data (Shapiro

Wilk), since the data did not match normal distribution, the Mann Whitney U-test and Kruskal Wallis Test were used for difference tests; and Spearman Correlation Analysis was used in the relations between variables. Also, basic-level descriptive statistics, such as frequency, percentage, and median were used in the analysis of the socio-demographic and economic data. In the study, which was conducted within a 95% Confidence Interval, the significance level of the *p* value was taken as $p < 0.05$. The IBM SPSS V.22 Program was used to analyze the data.

RESULTS

When the socio-demographic characteristics and descriptive information of a total of 295 participants were examined, it was found that 62.0% of the participants were women, 63.8% were under the age of 31, 57.6% were single, 56.9%

were high school graduates, and 32.9% were students. It was determined that 72.3% of the participants did not have any chronic diseases, 68.8% did not have continuously used medication, 51.1% sometimes read books/newspapers/magazines, 65.0% had moderate income level perception, and 42.0% had good overall health status perception.

When Table 1 is examined, it is seen that 83.1 of the participants said that they first admitted to their doctors in case of a dermatological complaint; 13.5% of them did not use the drug prescribed for their dermatological problems. When asked why, 32.5% of them said that they did not use it because they did not benefit from the drug. The drug form, which 52.5% of the participants did not use for dermatological problems, was found to be pomade/ointment/lotion.

Table 1: Drug use characteristics

Statements		n	%
The first procedure performed in the presence of a dermatological complaint	Using the drug already present at home	36	12,2
	Taking drugs from neighbours / friends	4	1,4
	Buying drugs from a pharmacy	10	3,3
	Seeing a physician	245	83,1
Drug status prescribed for your dermatological problems but you do not use	Yes	40	13,5
	No	255	86,5
The reason for not using drugs prescribed for your dermatological problems	Bad taste	3	7,5
	I don't want the treatment	4	10
	I did not get any benefit	13	32,5
	I forget to take the drug	4	10
	It is expensive, I can not afford it	1	2,5
	I don't care about it	5	12,5
	Others	10	25,0
The drug form prescribed for your dermatological problems but you do not use	Pomade / cream / lotion	21	52,5
	Tablet / capsule / dragee	17	42,5
	Suspension / syrup / sachet	2	5,0

The information status of the participants on their drug use for dermatological treatment is examined in Table 2. In this respect, 87.1% of the participants said that they knew the purpose of drugs, and 48.1% knew some of their side effects. A total of 41.3% of the respondents reported that they stored drugs in a closet; and 89.1% said that they received information about the drugs they used, 81.3% said

that doctors were the source of information. A total of 97.2% of the participants said that they understood the information they received, and 87.4% found this information sufficient; 13.5% said that they had trouble in reaching healthcare institutions, and 70.8% said that they had a relative who could help with drug use.

Table 2: Information on drug use in dermatological treatment

Statements		n	%
Knowing the purpose of using drugs	Yes	257	87,1
	No	38	12,9
Knowing the side effects of the drugs	I know all the side effects of drugs	106	35,9
	I know some of the side effects of drugs	142	48,1
	I do not know the side effects of drugs	47	16,0
Storing drugs	Refrigerator	64	21,6
	Cabin	122	41,3
	Somewhere outside (table, small table.....)	97	32,8
	Others	12	4,3
Getting information about the drugs you use	Yes	263	89,1
	No	32	10,9
The person you got the information	Physician	240	81,3
	Nurse	12	4,0
	Pharmacist	33	11,2
	Others	10	3,5
Understanding the information you receive	Yes	287	97,2
	No	9	2,8
The status of finding the information you received sufficient	Yes	258	87,4
	No	37	12,6
Problems in reaching the health institution	Yes	40	13,5
	No	255	86,5
The presence of a relative who can help with drug use	Yes	209	70,8
	No	86	29,2

When Table 3, which provides descriptive statistics of the scales, is examined, it is seen that the Health Literacy Scale has a median of 4.60 ± 0.2 . It can be argued that the median of dermatological drug use attitudes and behaviors of the participants was high at 1.56 ± 0.36 . The sub-dimension of the health

literacy scale that has the highest median is 4.80 ± 1.00 in access to information, and application/use sub-dimension at 4.80 ± 0.80 , and the lowest is appraisal/evaluation sub-dimension with 4.50 ± 1.125 .

Table 3: Descriptive statistics of dermatological drug use attitudes and behaviors in health literacy scale

	n	median	IQR (\pm)	Min.- Max.
Health literacy	295	4,60	0,92	1-5
<i>Access to information</i>	295	4,80	1,00	1-5
<i>Understanding the information</i>	295	4,57	1,00	1-5
<i>Appraisal / evaluation</i>	295	4,50	1,125	1-5
<i>Application / usage</i>	295	4,80	0,80	1-5
Attitudes and behaviors of using dermatological drug	295	1,56	0,36	0-2

When Table 4 is examined, it is seen that significant differences were detected in the health literacy levels of the participants in favor of those who were under 31 years of age, single, at least university graduate, who had a chronic disease, and those without continuous drug use ($p < 0.05$). Significant differences were also detected between the health literacy levels of participants and their overall health status perceptions, income levels, and frequency of reading books/newspapers/journals ($p < 0.05$). It was found that this significant difference in terms of income levels was between those with low and good

income levels, and between those with moderate and good income levels, in favor of those who had good income levels. In terms of Overall Health Status Perception, significant differences were detected between “none and moderate”, “moderate and good”, “moderate and very good” and “good and very good” groups ($p < 0.05$). In terms of the frequency of reading books/newspapers/journals, significant differences were detected between “none and sometimes”, “none and often”, and “sometimes and often”, in favor of “frequently” ($p < 0.05$).

Table 4: Comparison of health literacy scale and sociodemographic characteristics

Variables	Qualifications	Health Literacy Scale	
		median \pm IQR	p
Sex	Female	4,64 \pm 1,02	0,399
	Male	4,52 \pm 0,74	
Age	≤ 30	4,76 \pm 0,64	0,000
	≥ 31	4,34 \pm 1,14	
Marital status	Single	4,80 \pm 0,64	0,000
	Married	4,36 \pm 1,04	
Education level	\leq High School	4,36 \pm 1,16	0,000
	$>$ High School	4,80 \pm 0,68	
Income level	Good	4,88 \pm 0,64	0,003
	Medium	4,52 \pm 1,07	
	Low	4,42 \pm 0,76	
Occupation	Housewife	4,60 \pm 0,96	0,068
	Retired	4,86 \pm 0,91	
	Student	3,60 \pm 0,67	
	Public employee	4,76 \pm 0,78	
	Private sector employee	4,40 \pm 0,98	
	Tradesman	4,48 \pm 1,20	
	Unemployed	3,84 \pm 1,95	
Frequency of reading book / newspaper / magazine	Never	3,72 \pm 1,35	0,000
	Occasionally	4,60 \pm 0,79	
	Frequently	4,80 \pm 0,61	
Status of chronic diseases	Yes	4,44 \pm 1,43	0,03
	No	4,64 \pm 0,80	
Drug used continuously	Yes	4,52 \pm 1,08	0,014
	No	4,64 \pm 0,72	
General health condition perception	Very good	4,86 \pm 0,48	0,000
	Good	4,58 \pm 0,81	
	Medium	4,40 \pm 1,13	
	Low	4,42 \pm 0,85	
	None	4,80 \pm 1,16	

When the attitudes and behaviors of the participants are examined in Table 5, the statements the participants agreed at the highest rate were; the recommendation of taking the drugs hungry or full with 92.2%, using the drugs at the recommended dose with 90.5%, and paid attention

to the expiration date with 86.1%. The highest rate of participants who did not agree was; requesting antibiotics with prescriptions with 77.8%, requesting digestive system medication on prescription with 77.7%, and using medication based on the advice of others with 71.6%.

Table 5: Dermatological drug use attitudes and behaviors

Variables	Yes		Occasionally		No	
	n	%	n	%	n	%
Taking drug on time	239	% 81,0	8	(% 2,7)	48	(% 16,3)
Using the drug as often as recommended	260	% 88,1	0	(% 0)	35	(% 11,9)
Using the drug at the recommended dosage	267	%90,5)	25	(%8,4)	3	(% 1,1)
Paying attention to the expiration date	254	% 86,1)	26	(% 8,8)	15	(% 5,1)
Following the recommendation to get the drug hungry or full	272	%92,2)	18	(% 6,1)	5	(% 1,7)
Recommending the drug to others	55	% 18,6)	69	(%23,3)	171	(% 58,1)
Giving ther drug to the others	28	% 9,4)	72	(%24,4)	195	(%66,2)
Taking drugs upon advice of others	26	% 8,8)	58	(% 19,6)	211	(%71,6)
Taking drugs from the others	27	% 9,1)	61	(% 20,6)	207	(% 70,3)
Buying over-the-counter drugs at the pharmacy	45	% 15,2)	98	(%33,2)	152	(% 51,6)
Asking for pain relief on prescription	57	% 19,3)	84	(% 28,4)	154	(% 52,3)
Asking for antibiotics on prescription	25	(% 8,4)	41	(% 13,8)	229	(% 77,8)
Asking for digestive system drug on prescription	29	(% 9,8)	37	(% 12,5)	229	(% 77,7)
Checking the expiration dates of drugs	220	(% 74,5)	49	(% 16,6)	26	(% 8,9)
Reading the prospectus	203	(% 68,8)	52	(% 17,6)	40	(% 13,6)

According to the results of the Correlation Analysis, a statistically significant and very weak relation was detected between health literacy and dermatological drug use attitudes and behaviors ($p < 0.05$).

It was found in the present study that the health literacy scale and subgroups of the scale had significant and high-level relations ($p < 0.05$). A positive relation was detected between access to information and understanding information dimensions with a coefficient of .587, a positive relation was detected between access to

information and the evaluation sub-dimension at .662, a positive relation was also detected between access to information and application sub-dimension with the coefficient of .539, and a positive relation was detected with health literacy with the coefficient of .778. A positive relation was detected between the sub-dimension of understanding information and evaluation with the coefficient of .690, and a positive relation was detected between the understanding of information and the application sub-dimension with a coefficient of .603. A positive relation was detected

between understanding the information and the total score of health literacy with the coefficient of .851. A positive relation was detected between the evaluation and application sub-dimensions with a coefficient of .677. A positive relation was detected at .788 between the application sub-dimension and the total score of health literacy.

DISCUSSION

It is known that poor health literacy is associated with inadequate compliance to drug use, increased hospitalization and mortality¹¹. In this context, it can be speculated that determining and improving the health literacy levels of patients is important for effective disease management.

Non-rational drug use is a major problem on a global scale. The World Health Organization estimates that more than half of all the drugs are prescribed, distributed, or sold improperly, and approximately half of all patients do not receive drugs correctly. Rational Drug Use, which was developed as an important approach to fight against this problem, covers drug use in the doses that cover the clinical needs of patients, their individual requirements at sufficient time with the lowest cost for themselves and their societies¹². In our study, it can be argued that the dermatological drug use attitudes and behaviors of the participants were high, along with the health literacy levels of the participants according to the Health Literacy Scale. It can also be argued that the participants had high levels of access to information, understanding, appraisal/evaluation and application/use of information in the sub-dimensions of health literacy. Unlike our findings, health literacy of patients was found to be low in the some studies¹³⁻¹⁶. In another study conducted with university students by Özpınar et al., it was found that the knowledge levels on skin cancer prevention methods were inadequate¹⁷. Significant differences were detected in the health literacy levels of the participants in favor of those who were under 31 years of age, single, at least university graduate, who had a chronic disease, and those without medications used continuously. In the study conducted by Gücük et al., it was found that age, marital status, and education affected health literacy¹⁸. Previous studies reported that health literacy was effective in the early detection and prevention of chronic diseases¹⁹.

Although no significant differences were detected between gender and health literacy in the present study, in the study of Cho et al. it was found that there were lower health literacy scores in women²⁰. Significant differences were detected between the health literacy levels of the participants and

their overall health status perception, income levels, and frequency of reading books/news papers/journals.

When the knowledge and attitudes towards rational drug use of the participants were evaluated, many participants said that when they had a dermatological complaint, they first contacted their doctor, and used the prescribed drugs. One-third of those who do not use the recommended drugs said that they did not use them because they did not benefit from them. Many of the participants said that they received information about the drugs from their doctors, understood the information they received, and found this information sufficient.

When dermatological drug use attitudes and behaviors of the participants were evaluated, it was found that many participants agreed on the statements regarding issues such as taking drugs on time, using drugs at recommended interval and dose, paying attention to the expiry date, and complying with the recommendations on taking drugs when hungry or full. The relations between health literacy and dermatological drug use attitudes and behaviors were evaluated with the correlation analysis; and significant relations were detected between the two variables, and these relations were very weak.

It is necessary to minimize the risks for drugs in rational drug use, achieve effectiveness, compliance, safety and cost analysis of drugs, ensure accurate information and patient participation. Legal measures, access to accurate information, and education are the leading tools to promote rational drug use. Although certain progress was covered in the world in this respect and in Turkey, the problems in the use of drugs still continue. Formal and informal educational opportunities are used and developed to increase awareness in rational drug use. Necessary administrative arrangements must also be carried out to protect and support the attitudes and behaviors acquired in addition to education. Drug policies must be shaped in this regard. In this way, it is possible to achieve the expected benefits from drugs²¹.

Health literacy encourages individuals to better understand their health conditions, participate in the treatment process actively in the management of chronic diseases, benefit from preventive healthcare services, and take more responsibility for their health²².

CONCLUSION

Since many dermatological diseases have chronic progression, disease management and patient

adaptation to treatment are important for the effectiveness of the treatment. Right at this point, the importance of health literacy and rational drug use comes to the forefront. In the present study, it can be argued that dermatology patients have high health literacy levels, and generally show rational drug use attitudes and behaviors.

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Ethics approval

Approval was obtained from the ethics committee of Cumhuriyet University Medical Faculty Hospital Clinical Trials (Decision number: 2020-02/12). The procedures used in this study adhere to the tenets of the Declaration of Helsinki and in our study, consent forms were obtained from individuals in order to use information about patients

Conflicts of interest

The authors declare no conflicts of interest.

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